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ABSTRACT

A 3-year followup evaluation of the Personalized Education Program (PEP) of the General College, University of Minnesota, is presented. The program, which is designed to improve the academic retention and achievement of underprepared, freshman minority students, has served 273 students since the fall 1979 quarter, including 86 American Indians, 72 Chicanos/Latinos, and 115 Blacks. Data are provided for students who began the PEP program in 1981, 1980, and 1979. Findings include the following: of the 116 PEP students who began in fall 1979, 29 percent registered for at least one quarter during 1981-1982, and 12 percent registered for nine consecutive quarters since fall 1979; six percent of the PEP students transferred from General College to another University of Minnesota college; 1979 PEP students who persisted for 3 years achieved similar grades and numbers of credits compared to control groups, suggesting that these students were able to overcome educational disadvantages that existed when they began as freshmen; and students generally achieved similar grades in non-General Colleges classes compared to General College Classes, but the completion rate in non-General College classes was lower. Supporting statistical data and study recommendations are included. (Author/SW)

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RETENTION AND ACADEMIC ACHIEVEMENT IN HIGHER EDUCATION:

THE GENERAL COLLEGE PEP PROGRAM

(PEP I, II, III)

by

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P R E F A C E

The academic year 1981-82 was the third year of the General College's Personalized Education Program (PEP)¹, an educational project at the University of Minnesota designed to increase the retention rate and improve the academic achievement of minority and nontraditional students who historically have been underrepresented in higher education. In a continuing effort to improve and strengthen the PEP program, the General College made significant changes in its nature, composition, and administration during 1981-82. Primary among these changes was the addition of a fourth component to the program structure and the establishment of cooperative retention efforts between the General College and units of the College of Liberal Arts serving minority and disadvantaged students.

The new component added to the PEP program was the General College Asian Commanding English (ACE) program, an intensive oral and written communication curriculum for Southeast Asian refugee students. Thus, the 1981-82 PEP program was composed of four distinct components: PEP I (American Indian), PEP II (Chicano/Latino), PEP III (Black), and PEP IV (Asian/Pacific).

The inclusion of ACE in the General College PEP program was the result of a change in the funding source for ACE. In its two years of independent existence prior to 1981-82, the Commanding English program (originally designed to serve all foreign students in the General College and in 1980-81 modified to focus exclusively on the language needs of Southeast Asian students) was funded from a variety of sources: the University of Minnesota Educational Development Program; the Minnesota Department of Public Welfare; and the University's central administration. Since none of these funds was renewable, the General College petitioned the University's Office of Minority and Special Students Affairs (OMSSA) to fund the Asian Commanding English program for 1981-82 in the same manner as OMSSA helped fund the original three PEP components; that is, from money granted by OMSSA by the state legislature for the purpose of minority and special student retention. The College's request for funding was partially granted; the consequence was that the ACE program officially became an integral part of the 1981-82 PEP program.

A significant new dimension of the 1981-82 PEP program was the result of a novel cooperative arrangement between the General College and two College of Liberal Arts departments, Chicano Studies and American Indian Studies. In an effort to improve and strengthen the University's retention

¹Originally titled "Pilot Educational Program" (1978)

efforts for the Chicano/Latino and American Indian students, the administration of the General College and the two College of Liberal Arts minority departments entered into informal agreements, the consequences of which should have beneficial effects on the entire University retention effort.

By informal agreement with the Chicano Studies Department, PEP II adopted three Introduction to Chicano Studies courses as the cultural courses component of the Chicano/Latino retention effort. These Chicano Studies courses, taught by Chicano Studies Department faculty, were given General College course numbers and designations. The success of this mutual venture, both in the 1981-82 academic year and continuing to the present, has led to a more formal agreement between the General College and the Chicano Studies Department. In an agreement between the deans of the General College and the College of Liberal Arts--with the approval and assistance of the University's central administration--beginning with the 1983-84 academic year, the General College and the Chicano Studies Department will share a newly-created tenure track assistant professor position. The to-be-appointed assistant professor will have his/her tenure home and major teaching responsibility in the General College, while at the same time teaching the Chicano Studies introductory courses to PEP II students.

Another special arrangement that will have meaningful consequences on the General College PEP program is the result of an informal agreement between the General College and the College of Liberal Arts Department of American Indian Studies. Through the efforts of flo wiger, Director of the American Indian Learning Resource Center and an instructor in PEP I, the six General College College courses taught in PEP I will henceforth serve as all-University, 1-level, American Indian culture courses. These courses will be available not only to General College students but also to any student in the University who may wish to enroll in American Indian courses at the freshman-sophomore level.

Since its founding in 1978, the PEP program has undergone almost continuous evaluation. A "final" evaluation, for instance, has appeared at the end of each of the last two academic years. Thus this final report of the 1981-82 PEP program is the third such report in the three years of the program's existence. Unlike its predecessors, this report is divided into two separate segments. The first part presents an evaluation of PEP I, II, and III. The second part is an evaluation of the Asian Commanding English program (PEP IV). The separate evaluation of PEP IV represents the uniqueness of the Asian Commanding English (ACE) portion of the PEP program.

For the most part, students enrolled in PEP I, II, and III are native born Americans whose primary language is English. On the other hand, students enrolled in PEP IV are almost all Southeast Asian refugees whose native language is not English. Accordingly, the language learning problems of PEP IV students are dramatically different from those in the

other PEP groups. In the ACE portion of the PEP program, instructors find it necessary to give much greater emphasis to writing, speaking and pronunciation skills than is required in the other PEP sections. This difference, therefore, requires a different programmatic structure for PEP IV and the employment of uniquely devised pedagogic techniques.

The 1981-82 evaluation of PEP I, II, and III, like those in past years, was conducted by two members of the General College staff, Professors Joan Garfield and John Romano. Their evaluation this year contains a feature not found in previous reports. Besides the traditional measures of academic success--grade point averages (GPA), credit completion ratios (CCR), student characteristics, etc.--they added a two- and a three-year follow-up study of students enrolled in the PEP program the previous two years.

In these follow-up studies, certain patterns of retention are beginning to appear, the assessment of which provides confirmation of the effectiveness of the PEP program as a retention program and as an instructional mode. For example, the retention rate of students enrolled in PEP II (Chicano/Latino) and PEP III (Black) in the two previous years is higher than that of students enrolled in the two non-PEP control groups, while their CCR's and GPA's are the same as those of the control groups. Given the fact that students enrolled in the PEP program generally have lower high school percentile rankings than students in the two control groups, there is reason to be optimistic about the efficacy of the PEP program.

PEP I (American Indian), however, continues to be anomaly. Retention, GPA's and CCR's of students in this group continue to lag behind those of both the control groups and those of the other PEP groups. The reasons for these limitations appear to be varied and many. Perhaps a better assessment of PEP I could be made if it were compared to similar programs serving American Indians, either within the University as a whole or in other colleges and universities. To date, evaluators of the PEP program have been unable to locate any norms, studies or data that could usefully be used for such comparisons. In any case, the information gathered from the follow-up studies of the three PEP groups will be used in the General College to set up its own comparative norms and data base be fruitful in determining possible changes and revisions in the PEP program.

The 1981-82 evaluation of PEP IV (ACE) was conducted by General College Professor Sandra D. Flake and Sherry Read of the General College TRIO office. Although the courses in PEP IV were in some instances different in kind from those in the other PEP groups, the same traditional measures of success (GPA, CCR, and retention) were used to evaluate PEP IV as were used to evaluate the other PEP groups.

By all such measures, the Asian Commanding English program during 1981-82 was an overwhelming success. Retention rates for the program exceed 90%, grade point averages are in the high C+ range, and all other indicators of academic success (e.g., attendance, completion of

assignments, etc.) testify to both the effectiveness and the success of the program.

At this stage of the PEP program it would not necessarily be instructive to compare the success of PEP IV with the other PEP groups. For one thing, the cultural differences between students enrolled in PEP IV and students enrolled in the other PEP groups are great. Secondly, students enrolled in PEP IV began with language instruction at a more basic level than students enrolled in the other PEP groups. Finally, the most significant difference between PEP IV students and students in the other PEP groups lies in the level and quality of their prior academic preparation. Among the Asian students of the PEP IV group are some whose formal education in their native country can be considered excellent by any American standard. In fact, many of them, had they adequate mastery of the English language, would have qualified for admission to the College of Liberal Arts or the Institute of Technology. (Many of them, in fact, transfer to the Institute of Technology after their first year in the General College.) A psychological or sociological study of this amazing group of students would indeed be a worthwhile undertaking for some alert graduate student.

A sociological study, however would at this time be useless to the evaluators of the PEP program for two reasons: 1) Asian students enrolling in the PEP program in the future will be a younger group than those who have been in the program heretofore. Because future students in the program will be younger, they will most likely not have had the kind of excellent academic preparation in their native countries that some of their elders were fortunate enough to have. Secondly, these younger students enrolling in future offerings of PEP IV will most likely have had some academic work in American secondary schools. Thus, with the increased practice of English in their daily lives, they will come into the PEP program with a higher level of English skills. Nevertheless any Asian students who need additional instruction in English will find it available to them in the General College PEP program.

The pages that follow, representing the PEP program's 1981-82 final report, are divided into two segments: the first part concerns PEP I, II, and III; the second part describes the operations of PEP IV. While the data provided here might interest anyone desiring information about the General College's retention efforts, the two reports also serve as the mechanism by which the PEP program accounts for expenditure of funds derived from various sources. In addition, of course, for those responsible for the ongoing retention effort in the General College, these reports serve as invaluable guides as the PEP program faces the future. Finally, faculty and staff members who participated in the 1981-82 PEP program acknowledge a the debt of gratitude to the authors who so skillfully present the pages that follow.

C. P. Zanoni
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College PEP Program

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SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study represents the third major evaluation of the General College PEP Program, a program designed to improve the academic retention and achievement of underprepared freshman minority students. Since the fall quarter, 1979, the PEP Program has served 273 students, including 86 American Indian, 72 Chicano/Latino, and 115 Black students.

The report provides data and analyses--after one, two, and three years--about students who began the PEP Program in 1981, 1980, and 1979, respectively. A summary of the major results follows:

1. A three-year follow-up of 116 PEP students who began in fall, 1979, showed that 29% registered for at least one quarter during 1981-82. Further, 12% registered for nine consecutive quarters since fall, 1979. During this period, 6% transferred from General College to another University of Minnesota college. Taken collectively, the PEP '79 students were retained at lower levels compared to two academically stronger control groups. However, the Chicano/Latino and Black PEP students exceeded the retention rate of the non-PEP control (NPC) group, which was composed of minority students who entered the College with stronger academic skills.
2. The PEP '79 students who persisted at the University for three years achieved similar grades and numbers of credits compared to the control groups, suggesting that these students were able to overcome educational disadvantages that existed when they began as freshmen.
3. The PEP '80 students had an extremely high retention rate after two years, as 95% of these students returned to the University for at least part of 1981-82. As was found for PEP '79 after two years, 30% of PEP '80 students enrolled for six consecutive quarters during the two-year period.
4. PEP '81 students tended to have lower retention rates in their first year compared to the PEP '80 students. The difference was reflected primarily in the lower retention rate of the American Indian students in 1981-82 compared to 1980-81.
5. The General College Placement Tests correlated strongly with freshman-year achievement for the PEP '81 students.
6. Students who registered for non-General College classes generally achieved similar grades in non-General College classes compared to General College classes, but the completion rate in non-General College classes was lower.
7. Academic achievement as measured by grade-point average (GPA) and credit-completion rate decreased from fall to spring quarters for most student groups studied.

8. For both PEP and control group students, GPAs calculated with N grades included in the calculation were much lower (generally below 2.0) compared to those calculated without N grades (generally above 2.0).
9. For two consecutive years, students with high educational aspirations (beyond a 4-year degree) and who had been out of high school for three or more years tended to high higher achievement and retention rates compared to students with lower aspirations and more recent high school attendance.
10. Fall-quarter GPA and credit-completion rate continue to be major and early predictors of student persistence throughout the year.

RECOMMENDATIONS

The following recommendations for the PEP Program are based on data and information accumulated both formally and informally during the past three years.

1. While the PEP Program has served many students well, others are not being served effectively. Refinements of instructional and counseling interventions are necessary to enhance student retention and achievement. More rigorous educational experimentation to determine the most effective curricular and counseling interventions for these students is needed.
2. To effectively serve the academically underprepared minority freshman, the cooperation and involvement of all facets of the institution (i.e., administrative personnel, classroom instructors, and student services personnel), as well as involvement of the broader ethnic communities, is required.
3. Appropriate recruitment and placement of students in specialized programs and courses designed to improve retention and achievement is essential to the success of such programs.
4. Efforts should continue to identify nonintellectual variables which influence academic performance. Developing a profile of the most and least successful students would improve recruitment and course placement procedures while identifying the most needy students.
5. It must be recognized that many of the students who do not persist, withdraw for economic and personal reasons which are beyond the institution's control. Therefore, success criteria need to be continually evaluated, especially given the tendency of students to "stop out" of college for a period rather than "drop out" forever.
6. The academic performance of students should be routinely and closely monitored during their first quarter, as this quarter tends to be an excellent predictor of performance during the remainder of the year. Students who perform poorly during their first quarter should be carefully advised about appropriate courses for the following quarter.
7. Since the three ethnic groups of the PEP Program tended to perform differently on various criteria, future evaluations should consider and evaluate the performance of each of the ethnic groups separately rather than focus on the total group of PEP students.

8. The lack of clearly defined educational and career goals appears to influence academic retention and performance. Therefore, it is likely that if students are assisted in developing educational and career decisions, their retention and academic performance will improve.
9. The concept of specialized packages of courses for specific ethnic groups should be examined. Is ethnic separation within the Program necessary, or would students be better served by having elements of the Program integrated among the various ethnic groups?
10. The continued use of ethnic minority faculty members to teach, counsel, and advise in the Program is essential to the success of the Program.
11. Active and intensive counseling which focuses on educational and career planning, personal concerns, and survival within the institution is necessary to provide students with information, support, and guidance. This counseling appears to be most effective when integrated into and closely identified with the Program's academic curriculum.
12. Evaluations of programs such as PEP are best used to provide direction and leadership for change, especially to refine specific components of the Program.
13. Since the PEP Program is entering its fourth year, a college committee should be established to review the Program and to make recommendations for any needed changes. Individuals and services that have been involved with the PEP Program should be consulted during the committee's deliberations.

INTRODUCTION: WHAT IS THE PEP PROGRAM?

As institutions of higher education become increasingly accessible to large segments of the population, the academic achievement and retention of students becomes extremely important. Specifically, student achievement and retention is of major concern to those institutions with an open-door admissions policy, where students are generally admitted without regard to prior academic achievement or performance on standardized tests. The General College at the University of Minnesota is such a college.

In an effort to improve the academic achievement and retention of its students, General College initiated a curriculum experiment in the fall of 1979 to improve the academic success of underprepared ethnic-minority freshman students. This curriculum experiment, which was called the Pilot Educational Program (PEP), consisted of separate clusters of courses specifically designed for three groups of underprepared minority students: American Indian (PEP I), Chicano/Latino (PEP II), and Black (PEP III). Student selections for the PEP Program were based on high school academic achievement; scores on the General College Placement Tests in mathematics, reading, and writing; and the judgment of the student's advisor as to the appropriateness of the Program for the student. Student participation in the Program was voluntary.

The PEP Program itself consisted of courses in academic skill development (e.g. mathematics, reading and writing); culturally oriented classes (e.g., "American Indian People in Contemporary Minnesota," "The Chicano Experience," and "Afro-American Thought"); and intensive counseling and advising, often delivered through a series of "Higher Education Academic Survival Seminars." The PEP courses were often taught by faculty of the respective minority group, and the counseling and advising was usually delivered by ethnic minority faculty. Therefore, the PEP Program was designed to offer underprepared minority freshman students intensive academic skill development and counseling in a supportive environment with minority faculty serving as instructors, counselors, and advisors. As students progressed during their first collegiate year, they were permitted to register for courses outside the PEP Program if the courses were appropriate to their skill level, interests, and career plans.

Romano and Garfield (1980, 1981) completed two extensive studies of the PEP Program. These reports summarized the academic performance of, as well as demographic information about, the PEP students over a two-year period. In the 1981 report they concluded that "the PEP Program has been moderately successful over the last two years as PEP students have achieved and been retained at levels only slightly below students with stronger academic backgrounds" (p. 17).

This latest report presents a three-year follow-up of PEP Program students. Specifically, it continues the academic follow-up of the PEP '79 and PEP '80 students and control groups, as well as reporting on the most recent PEP students who began in fall, 1981.

METHOD: THE WHO, WHAT, AND HOW OF THE DATA

This research report reviews academic achievement and retention data for PEP students who started in General College as freshmen during the fall quarter of 1979, 1980, and 1981. In addition, selected demographic information and test scores are reported for the PEP students who began in fall, 1981. Specifically, this manuscript reports the following:

1. The academic progress through spring, 1982, of 116 PEP students who entered the PEP Program in fall, 1979 (PEP '79), giving their retention/withdrawal rates, cumulative grade-point averages (GPA) calculated with and without N grades, credit-completion ratios (CCR), number who transferred to other University of Minnesota colleges, and the number who received the General College Associate in Arts degree.
2. The academic progress through spring, 1982, of 79 PEP students who entered the Program in fall, 1980 (PEP '80), giving similar information to that described above.
3. The academic progress through spring, 1982, of 78 PEP students who entered the Program in fall, 1981 (PEP '81), giving similar academic information to that described above. In addition, selected demographic and test-score information is presented for this group, together with data suggesting relationships between academic progress variables and selected demographic and test-score variables. As in previous years, the new PEP students were identified through class rosters and by faculty involved with the PEP Program. To be considered a PEP student, the student had to have been enrolled in at least one PEP class in fall quarter, 1981, and to have completed no more than 12 collegiate credits prior to fall quarter.
4. The academic progress of two control groups who started as General College freshmen in fall, 1979, was also followed. These groups have served as comparison for the PEP groups for three years. One group, called the non-PEP control group (NPC), consisted of 86 minority (primarily Black) students, most of whom were receiving financial assistance through the Office of Minority and Special Student Affairs (OMSSA). These students were not registered for classes in the PEP Program because their academic skills were deemed strong enough so that they did not need the PEP Program.

The second control group, called the Psychology class control group (PsyC), consisted of 83 General College freshmen. These primarily white students were selected from an introductory psychology class with characteristics closely resembling the more typical General College student.

At the end of spring quarter, 1982, University transcripts were examined to determine GPA, CCR, and retention/withdrawal rates. GPA was calculated twice, with N grades included and not included in the calculation, using a 4-point scale (A = 4, B = 3, C = 2, D = 1, N = 0). Grades of I or W were not included in either GPA calculation. CCR was determined by dividing the number of credits completed by the number of credits attempted for a given quarter. For retention data, any student who registered and did not officially withdraw

that quarter was counted as a persister for that quarter. Cumulative GPA and CCR data were provided by the University Admissions and Records Office for those students who transferred from General College to other University of Minnesota colleges.

During freshman orientation, each student completed course placement tests in mathematics, reading, and writing, as well as the "General College Student Survey" which asked questions about the student's background, needs, and plans. These data were summarized for the 1981 PEP students, together with high school academic information collected from the "Freshman Summary Sheet" prepared by the University Admissions and Records Office.

RESULTS: WHAT DO THE DATA SHOW?

The results are divided into three parts: Part I: 1979-80 PEP students (PEP '79) and control groups (NPC and PsyC), Part II: 1980-81 PEP students (PEP '80), and Part III: 1981-82 PEP students (PEP '81).

Part I: Academic Progress of 1979-80 PEP Students and Control Groups-- Three-Year Follow-Up

In the fall of 1979, 116 students were enrolled in the PEP Program (PEP I = 36, PEP II = 42, PEP III = 38. At the same time, 86 non-white and 83 primarily white freshman students were identified as control groups. The following data report the academic progress of these students during the past three years.

Table 1 summarizes the extent to which these students have been retained at the University. During 1981-82, 29% of the PEP students, 35% of the non-PEP control group (NPC), and 47% of the Psychology class control (PsyC) registered for at least one quarter at the University of Minnesota. The retention rate was 11% for the American Indian students, 36% for the Chicano/Latinos, and 39% for the Black students. During the three-year period of 1979 through 1982, 12% of the PEP students, 19% of NPC, and 18% of PsyC remained registered for nine consecutive quarters. During this same period, 6% of the PEP students, 12% of NPC, and 25% of PsyC transferred to other University of Minnesota colleges. Most of these transfers were to the College of Liberal Arts. Out of the 285 students who entered as freshmen in 1979, eight have received the Associate in Arts degree (PEP I and III--one student each; PEP II, NPC, and PsyC--two students each).

Table 2 reports cumulative academic data on those students who enrolled at the University of Minnesota for any part of 1981-82. The PEP group had a higher cumulative GPA (without Ns) compared to the control groups (2.50 vs. 2.24 vs. 2.44); however, their CCR was lower (0.65 vs. 0.71 vs. 0.78). At the end of three years, the PEP students had acquired slightly more degree credits (91 vs. 86 vs. 88).

A review of the academic records of all 25 students from the PEP and control groups who transferred from General College showed their cumulative GPA (with and without Ns) and cumulative CCR to be higher compared to those students who did not transfer (see Table 3). PEP '79 students who were enrolled in General College had a higher cumulative GPA (without Ns) and achieved more degree credits compared to the NPC and PsyC students still in General College. The

four PEP students who had transferred from General College and who were still enrolled at the University of Minnesota achieved a higher mean GPA (with and without Ns) and accumulated more degree credits compared to both control groups. Their mean CCR was higher than that of NPC and only slightly lower than that of PsyC students who transferred (see Table 3).

Table 4 gives the 1981-82 academic achievement of those PEP '79 and control-group students who were enrolled in General College during 1981-82. The 1981-82 GPA and CCR of the PEP group were lower than those of the control groups. PEP and NPC experienced increased GPAs as the year progressed, while GPA decreased for PsyC. The CCR decreased for PEP and NPC as the year progressed. A comparison of performance in General College and non-General College classes showed PEP and NPC to have generally higher GPAs in non-General College classes, but lower credit-completion rates. The PsyC group performed better in General College classes compared to non-General College classes, achieving a higher GPA and CCR in General College classes. The Chicano/Latino students who started in 1979 had the strongest performance in 1981-82, followed by the American Indian and Black students. The Chicano/Latino group had a higher GPA and CCR compared to the other two ethnic groups, while the American Indian group had a higher GPA and CCR compared to the Black students.

Part II: Academic Progress of 1980-81 PEP Students-- Two-Year Follow-Up

In the fall of 1980, 79 students were enrolled as freshmen in the PEP Program (American Indian = 26, Chicano/Latino = 18, Black = 35). During the 1980-81 academic year, 70% of the PEP '80 group remained registered for the entire year, and 95% of these students returned to the University of Minnesota for at least part of 1981-82. Therefore, only 5% (4 students) of the remaining PEP '80 group did not return to the University of Minnesota in 1981-82 (see Table 5). This represented a much improved retention rate compared to the PEP '79 students, of whom 50% did not return to the University of Minnesota for a second year (see Figures 1 and 2). The academically stronger 1979 control groups also had much lower retention rates in their second year (41% and 29% did not return to the University of Minnesota) compared to the PEP '80 students. Five of the PEP '80 students transferred from General College after their first year. Of those that remained in General College, 69% remained registered all three quarters of 1981-82, and 49% remained registered all three quarters and earned at least one passing grade each quarter of 1981-82 (see Table 5). Again, these percentages were much higher compared to the PEP '79 students in their second year, when 30% remained registered all three quarters and 21% remained registered and earned at least one passing grade each quarter. However, similar to the PEP '79 students in their second year, 30% of the PEP '80 group completed registration consecutively for the six quarters (1980-82). The data suggest that these students tend to stop out periodically rather than enroll for consecutive quarters.

Table 6 reports the cumulative GPA and CCR data for the PEP '80 students who registered in General College during 1981-82. The average cumulative GPA for these students was 2.52 (without Ns) and 1.48 (with Ns). The GPA in non-General College classes was higher than in General College classes, regardless of the method of calculation. The GPAs of PEP I and II were higher compared to the PEP III students when N grades were not included. However, when N grades were included, PEP I and III students had similar GPAs, with PEP II being the highest

(2.07). GPA tended to decrease as the academic year progressed for all PEP students. Compared to PEP '79 students in their second year, the Chicano/Latino and Black students tended to have higher GPAs in their second year, while American Indian students had similar GPAs (see Figures 3 and 4).

The PEP '80 students who remained registered in General College completed 47% of their credits in 1981-82 (see Table 6). This percentage was similar to that of the PEP '79 students in their second year (see Figure 5). PEP students had more success completing General College credits compared to non-General College credits (48% vs. 43%). There was much variation among the three PEP groups on cumulative CCR. PEP II completed 60% of their credits, followed by PEP III (49%), and PEP I (38%). As with GPA, CCR decreased from fall to spring quarters. The PEP I and PEP II groups showed little change in CCR compared to their 1979 counterparts, while PEP III showed an increase (49% vs. 36%--see Figure 6).

Part III: 1981-82 PEP Students

There were 78 students enrolled as freshmen in the PEP Program in fall, 1981 (American Indian = 24, Chicano/Latino = 12, Black = 42).

A. Retention

Table 7 reports the retention/withdrawal rates for the PEP '81 students. Of the 78 students who registered in fall quarter, 49 students (63%) remained registered all three quarters, while 40% remained registered and earned at least one passing grade each quarter. As Figure 7 shows, these data were similar compared to PEP '79 (59% remained registered all three quarters) but lower compared to PEP '80 (70% remained registered all three quarters). In 1980-81, 51% of the PEP students remained registered and earned at least one passing grade each quarter. The American Indian students in 1981-82 had a lower percentage remaining registered all three quarters compared to the American Indian students in 1980-81 (54% vs. 77%), but a higher percentage compared to the PEP I students in 1979-80 (54% vs. 42%). The Chicano/Latino and Black students had similar retention percentages for all three years (67%). PEP I students had a lower percentage remaining registered and earning at least one passing grade each quarter compared to American Indian PEP students in 1980-81 (25% vs. 42%). Chicano/Latino students were higher on this dimension compared to the Chicano/Latino students in 1980-81 (58% vs. 50%), while the Black students were lower in 1981-82 compared to 1980-81 (43% vs. 57%). Figure 8 reflects these comparisons.

B. Academic Achievement

Table 8 shows the cumulative GPA and CCR for the PEP groups. The cumulative GPA for all PEP in 1981-82 was 2.75 (without Ns), which was higher than in the two previous years (see Figure 9). However, when N grades were included in the calculation, the average cumulative GPA dropped substantially, to 1.57, which was lower than in the two previous years (1.75 and 1.70). The pattern of substantially higher GPAs without Ns compared to those calculated with Ns was maintained for all three PEP groups. Further, regardless of how the GPAs were calculated, they tended to decrease as the year progressed. Figure 10 shows first-year GPA comparisons for each PEP group.

The cumulative CCR for PEP '81 students was 0.46 (see Table 8), which was slightly lower compared to the two previous years (0.51 and 0.48--see Figures 11 and 12). As with GPA, CCR decreased as the year progressed. American Indian

students completed the lowest percentage of credits compared to the Chicano/Latino and Black students. The American Indian students completed 48% of their credits fall quarter and 25% spring quarter. The other two PEP groups experienced less of a reduction in CCR from fall to spring quarters.

The GPA and CCR data were based primarily on General College classes, as few credits were taken in other University of Minnesota colleges (see Table 9). The fewest non-General College classes were taken fall quarter and the most spring quarter. The PEP '81 students generally registered for 12 to 14 credits per quarter.

C. High School Graduation and Rank and General College Placement Test Scores

Table 10 provides high school graduation and percentile rank information, and Table 11 reports the General College Placement Test scores for the PEP '81 students. The data show that 59% of the PEP students graduated from high school, and the average rank (of those reporting a rank) was at the 30th percentile. The percentile rank mean should be interpreted cautiously, however, since only 34 of the 78 PEP students reported a high school rank. The American Indian students had the lowest percentage of high school graduates (33%), followed by the Chicano-Latino students (58%), and the Black students (74%). The percentage of PEP students who had graduated from high school was similar to the previous two years (64% in 1980 and 60% in 1979). However, there were differences among the three PEP groups. In 1979, 50% of the PEP I students graduated from high school; in 1980, 64% were high school graduates. The PEP II group had more high school graduates in 1980 (72%), and about the same percentage as in 1979 (57%). The PEP III group had fewer high school graduates in 1980 (60%), and about the same percentage as in 1979 (74%).

Table 11 shows the mean scores on the General College Placement Tests for the PEP students who completed the tests (94% completed them). The total PEP group scored below the 20th percentile (compared to other General College freshmen) on all the subtests. However, there was variation among the three PEP groups. PEP I and PEP II scored much better on the reading test compared to PEP III. PEP II students scored better on the three mathematics tests compared to PEP I and PEP III. All three PEP groups tended to score similarly on the writing test. The PEP '81 students scored lower on all parts of the tests compared to the PEP '80 students. Also, the three PEP '81 groups generally scored lower on all parts of the tests compared to their respective groups of 1980.

D. General College Student Survey

The "General College Student Survey," completed during freshmen orientation, asked students questions about themselves and their goals. It was completed by 43% of the PEP students; therefore, as in previous years, when fewer than 50% of the PEP students completed the survey, these results are best considered tentative. Since the response rate for each PEP group was low, only summary data for all PEP students combined will be presented.

Most students (91%) indicated that they were receiving financial aid, and 27% planned to work while attending school (38% were not sure about work plans and 32% did not plan to work). Thirty percent of the students planned to transfer to another University of Minnesota college, 32% did not plan to transfer, and 35% were not sure. Over two thirds of the students aspired to at least a

bachelor's degree (68%), while 24% aspired to a certificate or an associate's degree. Business was indicated most often as the college major of choice (21%), followed by math or science (15%). However, 24% indicated that they were undecided, and another 6% did not answer the question. Most of the students had last attended school within the previous five years (79%). The educational background of the students' parents was varied, with 68% of the mothers and 59% of the fathers reported to have graduated from high school or received post-high school training. Concerning how well prepared for college they believed they were in a variety of areas, students indicated that they were most poorly prepared in math, musical and artistic fields, and science. A substantial percentage of students indicated counseling needs in the areas of study skills (65%), career and educational planning (65%), financial problems (62%), and test or speech anxiety (38%).

E. Relationships Among Selected Academic and Personal Variables

Table 12 shows five academic achievement and retention variables categorized by six personal variables. While this information attempts to show relationships between student characteristics and academic progress, firm conclusions cannot be made, since only those PEP students who completed the "Student Survey" (43%) are included in the analysis.

As was found in a similar analysis of the PEP '80 students, the PEP '81 students who had educational aspirations beyond a 4-year degree and who had been out of high school for three years or more achieved and were retained at higher levels compared to students with lower educational aspirations and who had attended high school more recently. For the PEP '81 students, those who were 23 years and older and who indicated a college major performed better on all five academic variables compared to younger students and those who were undecided about a college major. These relationships were not as pronounced for PEP '80 students, where those who indicated a college major outperformed the undecided students on three of the five academic variables and the older students outperformed the younger students on only two of the five academic variables. Males tended to make better academic progress compared to females in the PEP '81 group (males were higher on four of the five variables), while in PEP '80 the sexes tended to perform equally. A major reversal occurred in 1981 compared to 1980 on the parents' academic background variable. In 1981, students with parents who had training beyond high school tended to perform more poorly compared to students whose parents were high school graduates or less. In 1980, the reverse was found, as students with parents who had post-high school training achieved better than students whose parents were high school graduates or less.

To summarize this analysis based on 43% of the PEP '81 students, those students who were older, had educational aspirations beyond a 4-year degree, indicated a college major, and had been out of high school for three years or more made better academic progress compared to those students who were younger, had lower educational aspirations, were undecided about a college major, and had more recently attended high school.

F. Correlations of Selected Academic Variables and Academic Progress

Correlations of high school academic variables, General College Placement Tests, fall-quarter achievement, and freshman-year retention and achievement are reported in Table 13.

The General College Placement Tests correlated positively and significantly with ten of the fifteen correlations related to GPA and CCR. These correlations were stronger than occurred for PEP '80, when only four of the fifteen were significant. As was found for PEP '80, fall quarter GPA and CCR correlated significantly and positively with two variables related to freshman-year retention. For PEP '81, high school graduation status did not correlate significantly with any academic progress variable, while for PEP '80 it correlated significantly with all five academic progress variables. High school percentile rank correlated more strongly with the academic progress variables in 1981 compared to PEP '80, but only two of the five correlations were significant.

To summarize, fall-quarter achievement continues to be a strong indicator of freshman-year retention, while the General College Placement Tests showed strong relationships to freshman-year GPA and CCR.

DISCUSSION AND SUMMARY: WHAT DOES IT ALL MEAN?

The General College PEP Program has served 273 underprepared minority freshman students since it was initiated in fall, 1979. Extensive studies in 1980 and 1981 focused on the University of Minnesota academic achievement of these students and also gave information about selected student characteristics. The present study is the third major evaluation of the PEP Program, showing one-, two-, and three-year follow-up data of students served by the PEP Program.

The PEP Program was developed as a curriculum intervention to serve students from three minority groups (American Indian, Chicano/Latino, and Black) by offering a package of educational skills, cultural courses, and intensive counseling/advising during the freshman year. Since the primary purpose of the Program was to increase the retention and improve the academic achievement of underprepared minority freshmen, this study focused on the extent to which the Program improved the academic performance of the students. The study also examined relationships among student characteristics and academic performance to show possible ways that the Program could be improved.

The three-year follow-up of PEP '79 students showed that 29% of the original 116 students had registered for at least one quarter of the 1981-82 year. Further, 12% had registered for nine consecutive quarters since 1979, and 6% had transferred from General College to another University of Minnesota college. These retention and transfer percentages were consistently lower when compared to the two control groups (NPC and PsyC) which began college with academically stronger backgrounds. Although the total PEP '79 group had lower retention rates after three years compared to NPC and PsyC, the Chicano/Latino and Black students had higher retention rates compared to the NPC students. The Black students also exceeded the PsyC group in the percentage of those registering for nine consecutive quarters. These data suggest that the PEP Program is having a stronger impact on the retention of Chicano/Latino and Black students than on that of the American Indian students.

The PEP '79 students who registered for at least part of 1981-82 had average cumulative GPAs and CCRs comparable to those of the two control groups. PEP '79 exceeded the cumulative GPAs (without N) of NPC and PsyC, and PEP '79 exceeded the cumulative GPA (with N) of NPC. At the end of three years, PEP '79 had a somewhat lower cumulative CCR compared to the two control groups, but PEP '79

had accumulated more degree credits than either NPC or PsyC. Again there were differences among the three PEP groups. For example, the American Indian students accumulated more degree credits than any other group (including the control groups) and also achieved the highest cumulative GPA (without N). Therefore, those American Indian, Chicano/Latino, and Black students who persisted at the University achieved comparable grades and credits compared to control-group students during the three-year period. It appears that the PEP students who persisted were able to reduce the differences in educational skills that had existed between them and the control groups when they began college.

The PEP '80 group had an extremely high retention rate after two years, as 95% of PEP '80 returned to the University for at least part of 1981-82 (only four students failed to return). While this two-year retention rate was much higher compared to PEP '79 in their second year, the 30% of PEP '80 who enrolled for six consecutive quarters was equal to that of PEP '79. The second-year academic achievement of PEP '80 was also similar to that of PEP '79 students in their second year. While the PEP '80 group achieved a similar average GPA in General College classes compared to non-General College classes, their CCR in non-General College classes was lower. Figures 1 - 6 graphically show these second-year comparisons.

The newest group of PEP students, PEP '81, tended to have lower retention rates in their first year compared to PEP '79 and PEP '80 in their first years. While the Chicano/Latino and Black students had similar retention rates to those of the prior years, the American Indian students had a lower percentage (54%) of students remaining registered all three quarters compared to 1980 (77%), but higher compared to 1979 (42%). As in prior years, the PEP '81 students had fairly strong GPAs when N grades were not included in the calculation (2.75) but the GPA decreased substantially with N grades included (1.57). PEP '81 students completed 46% of the credits they attempted, which was similar to PEP '79 and PEP '80 in their first years. However, the American Indian students had a much lower credit-completion rate (32%) compared to the Chicano/Latino (57%) and Black students (51%). The PEP '81 group registered for relatively few non-General College classes during their freshman year. Figures 7 - 12 show these first-year comparisons.

The academic background of PEP '81 students was generally weaker upon entering General College compared to that of PEP '80 students. Fewer PEP '81 students had graduated from high school and they scored lower on the General College Placement Tests. However, students' degree aspirations continued to be as high as in previous years and students also seemed to experience as much career indecision.

As was found for PEP '80, those PEP '81 students who had high educational aspirations (beyond a 4-year degree) and had been out of high school three years or more were retained and achieved at higher levels during their freshman year compared to other PEP '81 students. Also, as was suggested for PEP '80, the PEP '81 students who were undecided about a college major were retained and achieved at lower levels compared to students who indicated a college major. The amount of parents' educational training of PEP '81 was inversely related to students' achievement and retention, thus reversing what was found for PEP '80, where parental education was directly related to student achievement and retention.

The General College Placement Tests correlated more strongly with freshman-year achievement (GPA and CCR) for PEP '81 than for PEP '80, while fall-quarter GPA and CCR correlated strongly with freshman-year retention for both PEP '81 and PEP '80. These data suggest that the General College Placement Tests adequately assessed the educational skills of the PEP '81 students and appear to offer a sound mechanism for prediction of student achievement. Finally, fall-quarter GPA and CCR continue to be a major and early indicator of those students who are likely to persist throughout the year.

It is generally agreed that both non-intellectual and intellectual variables contribute to educational success (as well as success in other aspects of life). The PEP research suggests that the variables of educational aspirations, number of years since attending high school, degree of career uncertainty, and parental education have an impact on PEP student retention and achievement. Of these, the one variable which can readily be influenced is the amount of career indecision. Therefore, one way to possibly strengthen PEP student achievement and retention is to reduce student uncertainty about career goals by offering a strong career development component as part of the PEP Program.

The intellectual variables measured by educational achievement tests and early collegiate performance also are related to student retention and achievement. The General College Placement Tests measure basic educational skills needed for college success, while fall-quarter achievement has been shown to be an excellent predictor of freshman-year retention. PEP students who perform poorly during fall quarter need to be contacted and offered assistance as a means to reduce freshman-year attrition.

This evaluation and the two earlier PEP evaluations have focused primarily on academic variables such as educational skills, grades, and retention rates. These data are readily available and easily reported, and lend themselves to numerous analyses. However, nonacademic variables, such as socio-economic factors, which are more difficult to gather, are equally important and may have as great an impact on retention and achievement of underprepared students as do educational skills and curriculum/counseling interventions. Underprepared minority students are generally influenced by changes in local economic conditions and must adjust to an institutional structure and environment which reflects the majority culture. While a university can lessen the impact of these economic and institutional factors, it cannot remove them completely for the student. Thus, for example, the student who enters the University with good intentions and strong motivation may not be able to remain enrolled, in the face of limited financial resources, especially since pursuing a bachelor's degree does not offer immediate and tangible financial rewards. An underprepared minority student must overcome many educational and socio-economic obstacles in order to succeed at a university. Therefore, even the strongest programs may have difficulty retaining students.

As the data accumulate on the relative merits of a program such as PEP, three areas need to be examined closely. The first relates to selection and recruitment of students. Since the time when PEP was first offered to minority students, the recruitment of students for PEP has improved. Students are no longer encouraged to enroll in PEP simply because of their race. However, student recruitment must consider the appropriateness of a university education for the student's career goals and interests, the amount of financial support available to the student, and the receptivity of the institution to provide specialized programming, instruction, and counseling to students with special needs. Second, the Program

must consider the likelihood of success for the students, recognizing that success can be defined in different ways. The PEP evaluations have attempted to identify predictors of student success, and after three years some trends have been established. Students who are most likely to succeed in a traditional sense (grades and persistence) have high educational aspirations and clearly-defined educational goals. Also, strong efforts need to be made to help students who have academic difficulty in fall quarter, as poor early performance is suggestive of poor later performance. Third, the specific components of the Program need to be examined. How can General College best serve these students, both in the classroom and through counseling and advising? While the PEP model has met with some success, perhaps others need to be attempted, recognizing that the models do not necessarily have to be similar for all minority groups. Perhaps the concept of packaging all courses by ethnic group should be altered to allow for greater inter-cultural exchange in the classroom. Some courses might be better presented by having a mixture of racial groups in the classroom. The PEP research suggests that improvements can be made. Now that the PEP Program has functioned for three years, more rigorous educational experimentation is needed to determine the most effective curriculum and counseling interventions for these students.

The PEP Program has shown that underprepared minority students can be successful in higher education even though they enter with many educational and socioeconomic liabilities. However, institutions of higher education which are willing to make commitments to these students need to continue to experiment in order to improve their effectiveness in delivering educational programs and services. Designing successful programs for the academically underprepared is not an easy task and requires an understanding of the needs of the complex student population involved. There are no simple answers to questions concerning retention and achievement of underprepared students. Improvement of retention rates and achievement levels of underprepared minority students requires a major institutional commitment wherein classroom instructors, student services personnel, and administrators work together with the broader ethnic communities to design programs, recruit students, and evaluate program effectiveness.

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TABLE 1
SUMMARY OF 1979-82 REGISTRATION STATUS FOR 1979 PEP AND CONTROL GROUPS

	PEP I		PEP II		PEP III		ALL PEP		NPC		PsyC	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
<u>FALL 1979</u>	36	100	42	100	38	100	116	100	86	100	83	100
Did Not Return to UM 1981-82	32	89	27	64	23	61	82	71	56	65	44	53
Did Not Return but Received AA Degree	0	0	1	2	0	0	1	1	0	0	3	4
Transferred from GC to Another UM College	3	8*	2	5	2	5	7	6*	10	12**	21	25***
Registered in GC for Any Part of 1981-82	4	11	13	31	13	34	30	26	26	30	22	26
Remained in GC for Any Part of 1981-82 After Receiving AA Degree	1	3	2	5	1	3	4	3	2	2	2	2
Returned to UM for at Least Part of 1981-82	4	11	15	36	15	39	34	29	30	35	39	47
Completed Registration all 3 Quarters 1981-82	2	6	8	19	11	29	21	18	17	20	19	23
Remained Registered all 3 Quarters 1981-82	2	6	8	19	11	29	21	18	16	19	19	23
Remained Registered and Earned at Least One Passing Grade Each Quarter 1981-82	1	3	6	14	4	10	11	9	14	16	15	18
Remained Registered All 9 Quarters 1979-82	2	6	4	10	8	21	14	12	16	19	15	18

* Three Students did not enroll at UM 1981-82

** Two Students did not enroll at UM 1981-82

*** Eight students did not enroll at UM 1981-82

TABLE 2

SUMMARY OF CUMULATIVE GRADE POINT AVERAGES (GPA), CREDITS, AND ENROLLMENT
OF 1979 PEP AND CONTROL STUDENTS WHO REGISTERED FOR ALL OR PART OF 1981-82

		PEP I (N=4)	PEP II (N=15)	PEP III (N=15)	ALL PEP (N=34)	NPC (N=30)	PsyC (N=39)
<u>GPA</u>							
Without N	$\bar{X}$	2.60	2.55	2.43	2.50	2.24	2.44
	SD	.44	.42	.46	.43	.29	.38
With N	$\bar{X}$	1.82	2.10	1.86	1.96	1.83	2.14
	SD	.21	.76	.62	.65	.49	.58
<u>CREDITS</u>							
Credits Registered	$\bar{X}$	168.5	121.7	139.9	135.2	116.2	111.0
	SD	45.8	43.2	22.4	37.7	21.4	20.6
Credits Completed	$\bar{X}$	96.8	82.3	87.0	86.1	83.0	87.3
	SD	19.3	29.4	26.0	28.5	23.7	26.0
Credit Completion Ratio	$\bar{X}$	.59	.69	.62	.65	.71	.78
	SD	.09	.22	.20	.20	.18	.18
Degree Credits	$\bar{X}$	96.8	89.9	90.6	91.0	85.9	88.0
	SD	19.3	34.3	29.8	30.2	26.3	25.6
<u>ENROLLMENT</u>							
Quarters at UM	$\bar{X}$	12.2	9.3	10.7	10.3	9.4	8.8
	SD	2.4	2.8	1.9	2.5	1.8	1.8
Quarters at GC	$\bar{X}$	12.2	9.0	9.8	9.7	8.4	7.5
	SD	2.4	2.8	3.2	3.0	2.2	2.5
Quarters Summer School	$\bar{X}$	2.0	.7	1.3	1.0	.9	.5
	SD	.5	1.1	1.4	1.2	1.2	1.1

TABLE 3

SUMMARY OF CUMULATIVE GRADE POINT AVERAGES (GPA), CREDITS, AND ENROLLMENT
OF 1979 PEP AND CONTROL STUDENTS WHO REGISTERED FOR ALL OR PART OF 1981-82
COMPARING TRANSFERRED WITH NON-TRANSFERRED STUDENTS

		<u>Students Still Enrolled in GC</u>				<u>Students Who Have Transferred from GC</u>			
		PEP (N=30)	NPC (N=26)	PsyC (N=22)	PEP & CONTROL (N=78)	PEP (N=4)	NPC (N=8)	PsyC (N=13)	PEP & CONTROL (N=25)
<u>GPA</u>									
Without N	$\bar{X}$	2.47	2.18	2.40	2.36	2.78	2.40	2.56	2.54
	SD	.44	.27	.42	.40	.31	.30	.28	.31
With N	$\bar{X}$	1.86	1.73	1.97	1.86	2.68	2.12	2.48	2.40
	SD	.63	.47	.61	.58	.31	.46	.31	.41
<u>CREDITS</u>									
Credits Registered	$\bar{X}$	137.1	119.8	113.4	124.3	121.0	106.4	106.4	108.7
	SD	39.4	22.5	22.6	31.6	17.6	15.4	15.9	16.2
Credits Completed	$\bar{X}$	83.8	83.3	84.6	83.9	103.2	82.2	92.6	91.0
	SD	28.7	27.0	28.2	27.7	22.4	11.6	20.9	19.2
Credit Completion Ratio	$\bar{X}$	.62	.69	.74	.68	.85	.78	.86	.84
	SD	.19	.20	.19	.20	.09	.10	.11	.10
Degree Credits	$\bar{X}$	89.4	86.2	85.5	87.2	103.2	85.1	92.9	92.0
	SD	31.0	30.3	27.8	29.4	22.4	10.9	20.9	18.8
<u>ENROLLMENT</u>									
Quarters at UM	$\bar{X}$	10.4	9.4	8.7	9.6	9.5	9.5	8.9	9.2
	SD	2.6	1.8	1.7	2.2	1.0	1.7	1.9	1.7
Quarters at GC	$\bar{X}$	10.3	9.3	8.6	9.4	5.8	5.9	5.1	5.4
	SD	2.5	1.6	1.7	2.1	4.0	1.9	2.2	2.4
Quarters Summer School	$\bar{X}$	1.0	.9	.5	.8	.5	.8	.7	.7
	SD	1.3	1.1	1.0	1.2	1.0	1.5	1.2	1.2

TABLE 4

CUMULATIVE GRADE POINT AVERAGES (GPA) AND CREDIT COMPLETION RATIOS (CCR)
FOR 1979 PEP AND CONTROL GROUPS IN 1981-82 (Scale: A=4, B=3, C=2, D=1)*

	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>
<u>PEP I</u>			
Cumulative GPA**	2.27 (1.38)	--	2.27 (1.38)
Standard Deviation	.50 (.67)	--	.50 (.67)
Number of Students	4 (4)	--	4 (4)
Cumulative CCR**	.45	--	.45
Standard Deviation	.18	--	.18
Number of Students	4	--	4
<u>PEP II</u>			
Cumulative GPA**	2.32 (2.00)	2.48 (1.67)	2.43 (2.04)
Standard Deviation	.29 (.68)	1.23 (1.69)	.57 (.94)
Number of Students	11 (11)	3 (4)	12 (12)
Cumulative CCR**	.73	.46	.65
Standard Deviation	.33	.43	.34
Number of Students	12	6	13
<u>PEP III</u>			
Cumulative GPA**	2.02 (1.16)	2.28 (1.48)	2.02 (1.16)
Standard Deviation	.54 (.75)	.70 (1.03)	.46 (.74)
Number of Students	10 (12)	7 (9)	10 (12)
Cumulative CCR**	.41	.57	.40
Standard Deviation	.32	.42	.28
Number of Students	13	11	13
<u>ALL PEP</u>			
Cumulative GPA**	2.19 (1.53)	2.38 (1.54)	2.25 (1.57)
Standard Deviation	.44 (.79)	.83 (1.20)	.53 (.90)
Number of Students	25 (27)	10 (13)	26 (28)
Cumulative CCR**	.55	.47	.51
Standard Deviation	.34	.39	.31
Number of Students	29	15	30
<u>NON-PEP CONTROL</u>			
Cumulative GPA**	2.37 (1.66)	2.95 (1.97)	2.38 (1.48)
Standard Deviation	.62 (.89)	.94 (1.32)	.52 (.81)
Number of Students	19 (22)	13 (15)	19 (22)
Cumulative CCR**	.64	.55	.56
Standard Deviation	.36	.37	.33
Number of Students	22	16	22
<u>PSYCH CLASS CONTROL</u>			
Cumulative GPA	2.62 (2.13)	1.98 (1.29)	2.36 (1.81)
Standard Deviation	.69 (1.08)	.70 (.98)	.60 (.89)
Number of Students	22 (25)	19 (22)	24 (26)
Cumulative CCR	.76	.59	.69
Standard Deviation	.34	.37	.31
Number of Students	25	23	26

*GPA calculated when N=0 in parentheses

**Does not include students who transferred from GC

TABLE 5

SUMMARY OF 1980-1982 REGISTRATION STATUS FOR 1980 PEP GROUPS

	PEP I		PEP II		PEP III		ALL PEP	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
<u>FALL 1980</u>	26	100	18	100	35	100	79	100
Remained Registered All 1980-81	20	77	12	67	23	66	55	70
Did Not Return to UM 1981-82	0	0	2	11	2	6	4	5
Returned to UM for at Least Part of 1981-82	26	100	16	89	33	94	75	95
Transferred from GC to Another UM College	1	4	2	11	2	6	5	6
Completed Registration All 3 Quarters 1981-82	21	84*	11	69*	23	70*	55	74*
Remained Registered All 3 Quarters 1981-82	19	76*	10	63*	22	67*	51	69*
Remained Registered and Earned at Least One Passing Grade Each Quarter 1981-82	11	44*	7	44*	18	55*	36	49*
Completed Registration All 6 Quarters 1980-82	7	28*	4	25*	11	33*	22	30*

* Percentage based on those students who did not transfer from GC

TABLE 6

CUMULATIVE GRADE POINT AVERAGES (GPA) AND CREDIT COMPLETION RATIOS (CCR)
FOR 1980 PEP STUDENTS IN 1981-82 (Scale: A=4, B=3, C=2, D=1)*

	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>
<u>PEP I</u>			
Cumulative GPA**	2.61 (1.36)	3.13 (1.55)	2.62 (1.32)
Standard Deviation	.48 (1.03)	.66 (1.65)	.47 (1.04)
Number of Students	20 (24)	6 (11)	20 (24)
Cumulative CCR**	.40	.39	.38
Standard Deviation	.32	.49	.32
Number of Students	25	14	25
<u>PEP II</u>			
Cumulative GPA**	2.72 (2.16)	2.88 (1.53)	2.68 (2.07)
Standard Deviation	.58 (1.20)	.21 (1.44)	.52 (1.17)
Number of Students	13 (14)	3 (5)	13 (14)
Cumulative CCR**	.61	.38	.60
Standard Deviation	.35	.49	.34
Number of Students	14	7	14
<u>PEP III</u>			
Cumulative GPA**	2.35 (1.34)	2.75 (2.10)	2.34 (1.34)
Standard Deviation	.46 (.95)	1.50 (1.88)	.43 (.93)
Number of Students	24 (31)	4 (5)	24 (31)
Cumulative CCR**	.49	.58	.49
Standard Deviation	.36	.49	.35
Number of Students	31	6	31
<u>ALL PEP</u>			
Cumulative GPA**	2.53 (1.51)	2.95 (1.68)	2.52 (1.48)
Standard Deviation	.51 (1.07)	.88 (1.59)	.48 (1.05)
Number of Students	57 (69)	13 (21)	57 (69)
Cumulative CCR*	.48	.43	.47
Standard Deviation	.35	.48	.34
Number of Students	70	27	70

*GPA calculated when N=0 in parentheses

**Does not include students who transferred from GC

TABLE 7

1981 PEP STUDENTS' REGISTRATION STATUS FOR THE ENTIRE 1981-82 ACADEMIC YEAR

	PEP I (N=24)		PEP II (N=12)		PEP III (N=42)		ALL PEP (N=78)	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Completed Registration All Three Quarters	14	58	8	67	31	74	53	68
Remained Registered All Three Quarters	13	54	8	67	28	67	49	63
Remained Registered and Earned at Least One Passing Grade Each Quarter	6	25	7	58	18	43	31	40

TABLE 8

CUMULATIVE GRADE POINT AVERAGES (GPA) AND CREDIT COMPLETION RATIOS (CCR)
FOR 1981 PEP STUDENTS (Scale: A=4, B=3, C=2, D=1)*

	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>
<u>PEP I</u>			
Cumulative GPA	2.79 (1.28)	3.21 (1.60)	2.79 (1.29)
Standard Deviation	.55 (1.19)	.30 (1.86)	.55 (1.21)
Number of Students	18 (24)	2 (4)	18 (24)
Cumulative CCR	.33	.21	.32
Standard Deviation	.26	.40	.27
Number of Students	24	8	24
<u>PEP II</u>			
Cumulative GPA	2.68 (1.74)	3.56 (2.67)	2.72 (1.76)
Standard Deviation	.74 (1.46)	.51 (1.83)	.76 (1.48)
Number of Students	9 (12)	3 (4)	9 (12)
Cumulative CCR	.58	.57	.57
Standard Deviation	.45	.53	.44
Number of Students	12	7	12
<u>PEP III</u>			
Cumulative GPA	2.70 (1.68)	2.81 (2.11)	2.74 (1.68)
Standard Deviation	.57 (1.20)	1.35 (1.73)	.60 (1.18)
Number of Students	31 (40)	6 (8)	32 (40)
Cumulative CCR	.52	.55	.51
Standard Deviation	.36	.50	.36
Number of Students	40	10	40
<u>ALL PEP</u>			
Cumulative GPA	2.73 (1.56)	3.09 (2.12)	2.75 (1.57)
Standard Deviaion	.58 (1.24)	1.04 (1.71)	.60 (1.24)
Number of Students	56 (76)	11 (16)	59 (76)
Cumulative CCR	.47	.45	.46
Standard Deviation	.36	.49	.36
Number of Students	76	25	76

*GPA calculated when N=0 in parentheses

TABLE 9
CREDIT DISTRIBUTIONS FOR 1981 PEP STUDENTS

	<u>PEP I</u>			<u>PEP II</u>		
	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>
<u>Fall Quarter</u>						
Number of Students	24	3	24	12	--	12
Total Credits	324	10	334	160	--	160
Average Credits	13.50	3.33	13.92	13.33	--	13.33
<u>Winter Quarter</u>						
Number of Students	20	4	20	9	4	9
Total Credits	263	16	279	128	10	138
Average Credits	13.15	4.00	13.95	14.22	2.50	15.33
<u>Spring Quarter</u>						
Number of Students	14	5	14	9	4	9
Total Credits	173	21	194	95	23	118
Average Credits	12.36	4.20	13.86	10.56	5.75	13.11
<u>Cumulative</u>						
Number of Students	24	8	24	12	7	12
Total Credits	760	47	807	383	33	416
Average Credits	31.67	5.88	33.62	31.92	4.71	34.67
	<u>PEP III</u>			<u>ALL PEP</u>		
	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>	<u>GC Classes</u>	<u>Non-GC Classes</u>	<u>All Classes</u>
<u>Fall Quarter</u>						
Number of Students	39	--	39	75	3	75
Total Credits	510	--	510	994	10	1004
Average Credits	13.08	--	13.08	13.25	3.33	13.39
<u>Winter Quarter</u>						
Number of Students	32	6	32	61	14	61
Total Credits	383	20	403	774	46	820
Average Credits	11.97	3.33	12.59	12.69	3.28	13.44
<u>Spring Quarter</u>						
Number of Students	31	5	31	54	14	54
Total Credits	370	20	390	638	64	702
Average Credits	11.94	4.00	12.58	11.81	4.57	13.00
<u>Cumulative</u>						
Number of Credits	40	10	40	76	25	76
Total Credits	1263	40	1303	2406	120	2526
Average Credits	31.58	4.00	32.58	31.66	4.80	33.24

TABLE 10
HIGH SCHOOL ACADEMIC BACKGROUND OF 1981 PEP STUDENTS

	<u>PEP I (N=24)</u>		<u>PEP II (N=12)</u>		<u>PEP III (N=42)</u>		<u>ALL PEP (N=78)</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
<u>Graduated from High School:</u>								
Yes	8	33	7	58	31	74	46	59
No	14	58	5	42	7	17	26	33
Missing	2	8	0	0	4	10	6	8

<u>Means and Std. Deviation of</u> <u>High School Percentile Ranks :</u>	<u>PEP I</u>	<u>PEP II</u>	<u>PEP III</u>	<u>ALL PEP</u>
Mean Percentile	12.5	3.0	34.4	30.0
Standard Deviation	4.5	2.8	23.1	23.2
Number of Students	4	2	28	34

TABLE 11

MEANS ($\bar{X}$), STANDARD DEVIATIONS (SD), AND PERCENTILE RANKS (PR)*
OF GENERAL COLLEGE PLACEMENT TESTS FOR 1981 PEP STUDENTS

	<u>PEP I</u>				<u>PEP II</u>				<u>PEP III</u>				<u>ALL PEP</u>			
	N	$\bar{X}$	SD	PR	N	$\bar{X}$	SD	PR	N	$\bar{X}$	SD	PR	N	$\bar{X}$	SD	PR
Reading	22	18.36	8.00	29	12	18.67	7.06	31	39	13.49	5.57	13	73	15.81	7.00	19
Writing	22	19.91	5.90	17	12	19.83	6.12	16	39	19.08	6.16	13	73	19.45	6.00	15
Whole Numbers	22	4.00	2.02	10	12	4.83	2.04	22	39	4.13	1.84	12	73	4.20	1.92	13
Arithmetic	22	9.59	5.65	12	12	12.00	6.19	24	39	10.41	4.74	16	73	10.42	5.26	16
Algebra	22	5.32	3.29	18	12	6.67	4.33	27	39	4.44	3.51	13	73	5.07	3.63	16

*Percentile ranks are based on norms developed from more than 1300 General College freshmen

TABLE 12
MEANS ($\bar{X}$) OF GRADE POINT AVERAGE (GPA) AND CREDIT COMPLETION RATIOS (CCR),
AND PERCENTAGES OF RETENTION VARIABLES CLASSIFIED BY SELECTED PERSONAL VARIABLES
FOR 1981 PEP STUDENTS (N=34*)

	<u>CCR</u>		<u>GPA</u> <u>(Without N's)</u>		<u>GPA</u> <u>(With N's)</u>		<u>Registered</u> <u>All Three</u> <u>Quarters</u>		<u>Earned at</u> <u>Least One</u> <u>Passing Grade</u> <u>All Three</u> <u>Quarters</u>	
	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	%	N	%
<u>Sex</u>										
Female (N=20)	19	.41	14	2.86	19	1.51	13	65	7	35
Male (N=11)	11	.56	9	2.58	11	1.59	10	91	6	54
<u>Age</u>										
17-22 years (N=21)	21	.48	15	2.67	21	1.46	14	67	8	38
23 and Older (N=13)	10	.59	9	2.98	10	2.20	9	82	6	54
<u>Parents' Academic Background</u>										
High School Grad or Less (N=15)	15	.58	13	2.71	15	1.90	13	87	8	53
Training Beyond High School (N=18)	17	.41	12	2.82	17	1.39	11	61	5	28
<u>Student's Aspirations</u>										
4-Year Degree or Less (N=24)	23	.44	17	2.72	23	1.46	17	71	9	38
Beyond 4-Year Degree (N=9)	9	.62	8	2.92	9	2.08	9	89	5	56
<u>Student's Major</u>										
Undecided (N=8)	8	.46	7	2.68	8	1.62	5	62	3	38
Major Indicated (N=24)	23	.54	17	2.89	23	1.75	18	75	11	46
<u>Years Since Last in High School</u>										
Less Than 3 Years (N=22)	22	.49	16	2.79	22	1.61	15	68	8	36
3 Years or More (N=11)	10	.53	9	2.86	10	1.86	9	82	5	46

*Number of PEP students who completed General College Student Survey

TABLE 13

CORRELATIONS OF HIGH SCHOOL DATA AND GENERAL COLLEGE PLACEMENT TESTS AND
MEASURES OF RETENTION AND ACADEMIC PROGRESS FOR 1981 PEP STUDENTS

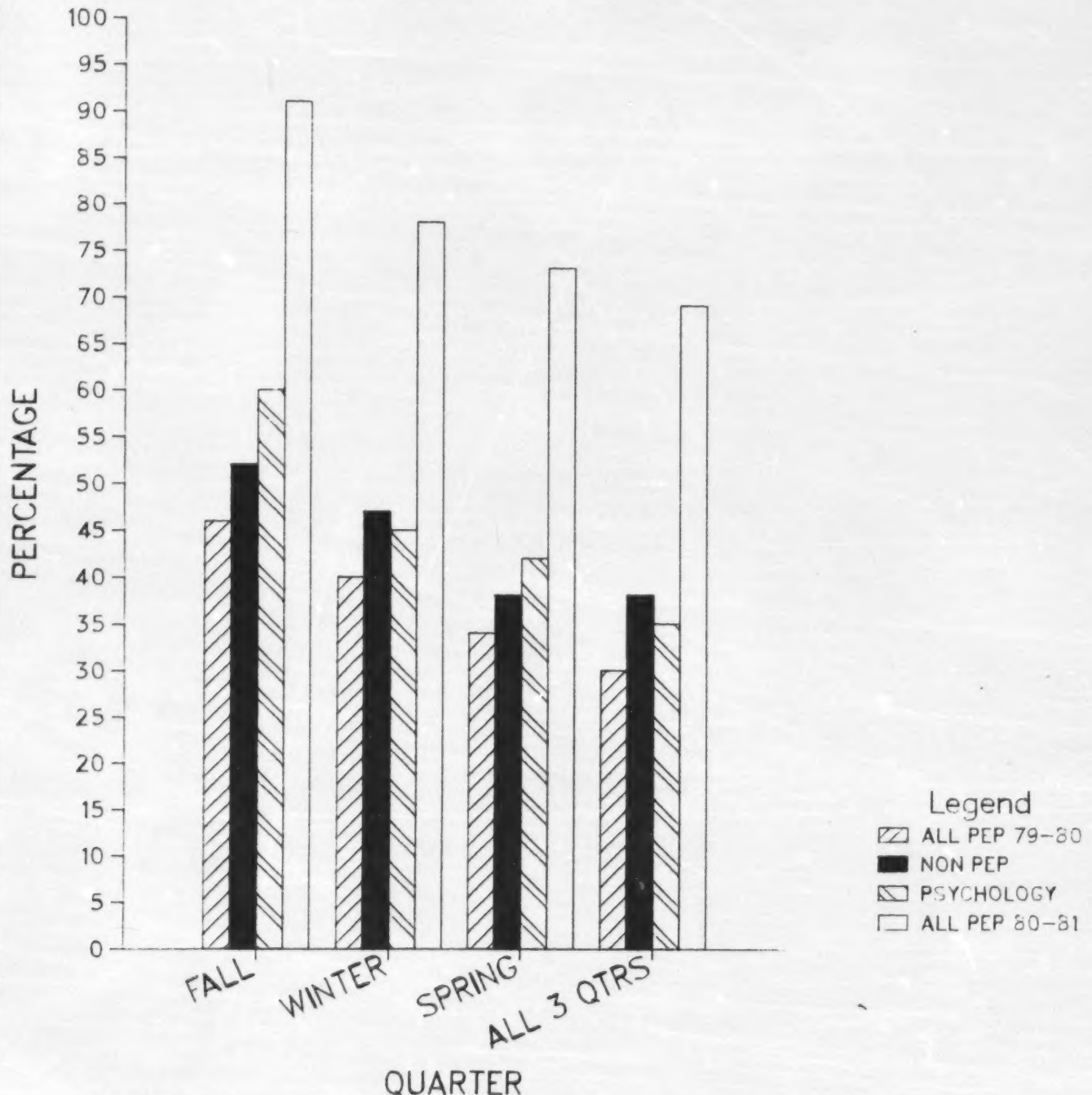
	<u>Registered All Three Quarters</u>	<u>Earned at Least One Passing Grade All Three Quarters</u>	<u>Cumulative CCR</u>	<u>Cumulative GPA (Without N's)</u>	<u>Cumulative GPA (With N's)</u>
High School Graduate	.03	.01	.12	.01	.04
H.S. Percentile Rank	.01	.32*	.37*	-.22	.16
<u>GC Placement Tests</u>					
Reading	.12	.14	.20*	.45**	.22*
Writing	.09	.05	.19	.35**	.24*
Whole Numbers	-.11	.18	.20*	.34**	.16
Arithmetic	.06	.30**	.32**	.33**	.27*
Algebra	.13	.04	.12	.06	.12
Fall CCR	.63**	.59**	--	--	--
Fall GPA (Without N's)	.14	.22*	--	--	--
Fall GPA (With N's)	.53**	.55**	--	--	--

* $p < .05$

** $p < .01$

FIGURE 1

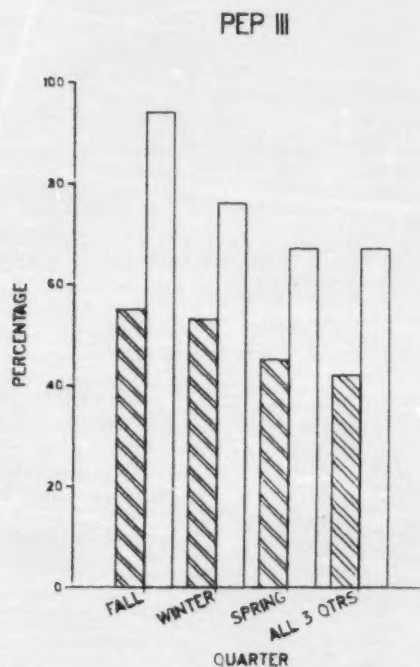
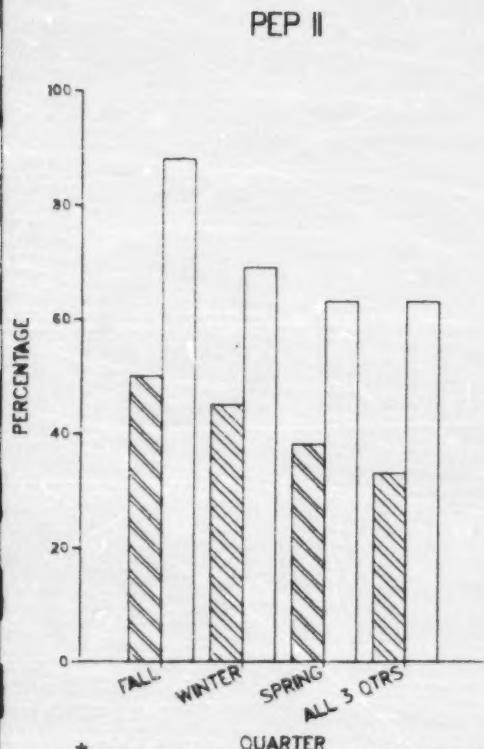
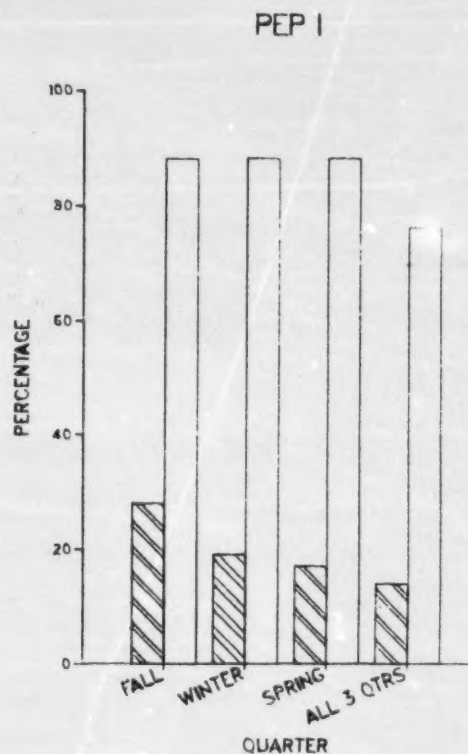
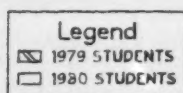
PERCENTAGE OF STUDENTS REMAINING REGISTERED
DURING THEIR SECOND YEAR
FOR 1979 PEP AND CONTROL GROUPS
AND 1980 PEP GROUP*



* PERCENTAGES WERE DERIVED FROM NUMBER BASES WHICH INCLUDE ENROLLED GENERAL COLLEGE STUDENTS ONLY. STUDENTS WHO TRANSFERRED OR RECEIVED THE ASSOCIATE IN ARTS DEGREE WERE NOT INCLUDED.

FIGURE 2

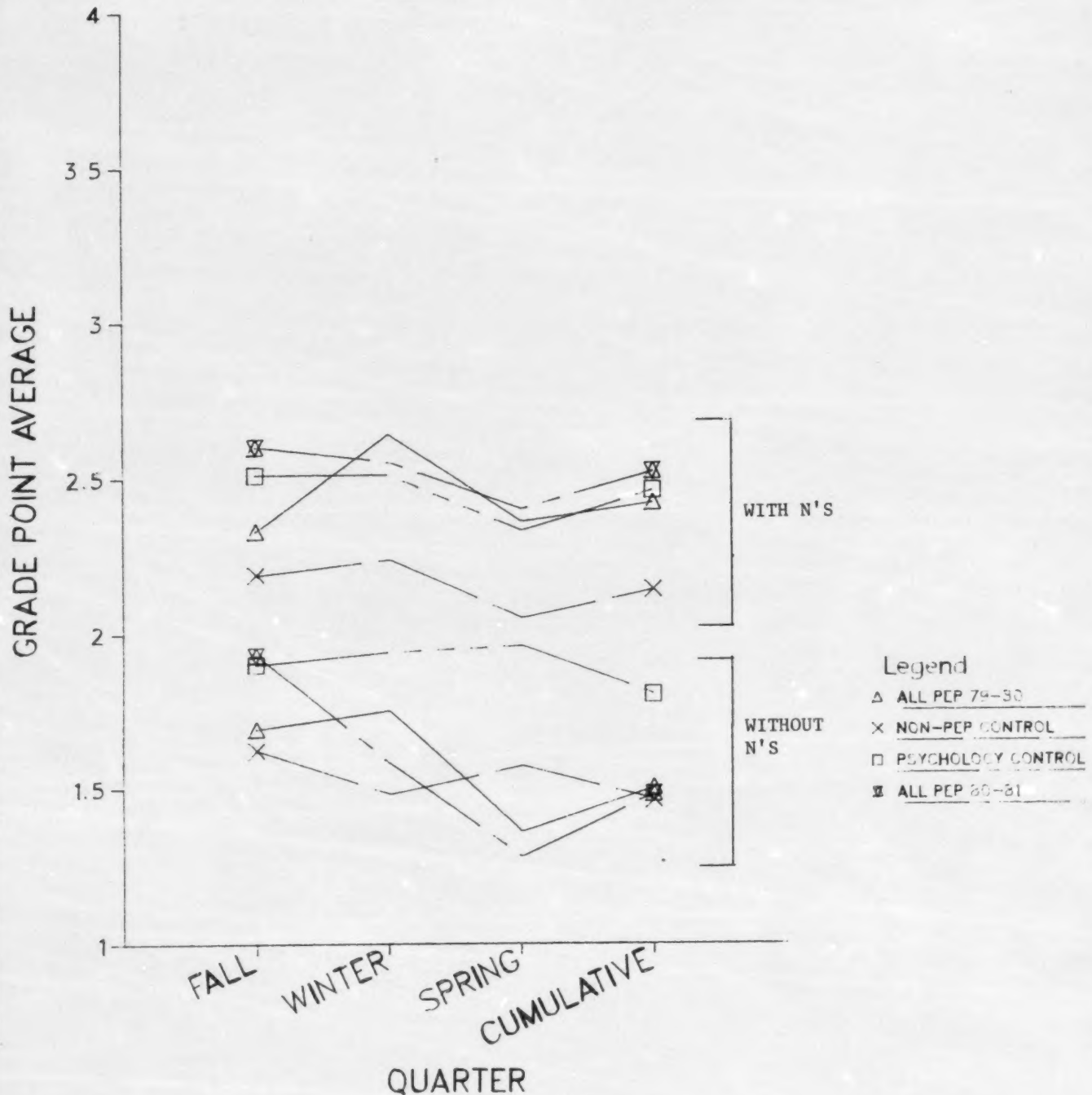
PERCENTAGE OF STUDENTS REMAINING REGISTERED
DURING THEIR SECOND YEAR
FOR PEP I, II, & III IN 1979 AND 1980 *



* PERCENTAGES WERE DERIVED FROM NUMBER BASES WHICH INCLUDE ENROLLED GENERAL COLLEGE STUDENTS ONLY. STUDENTS WHO TRANSFERRED OR RECEIVED THE ASSOCIATE IN ARTS DEGREE WERE NOT INCLUDED.

FIGURE 3

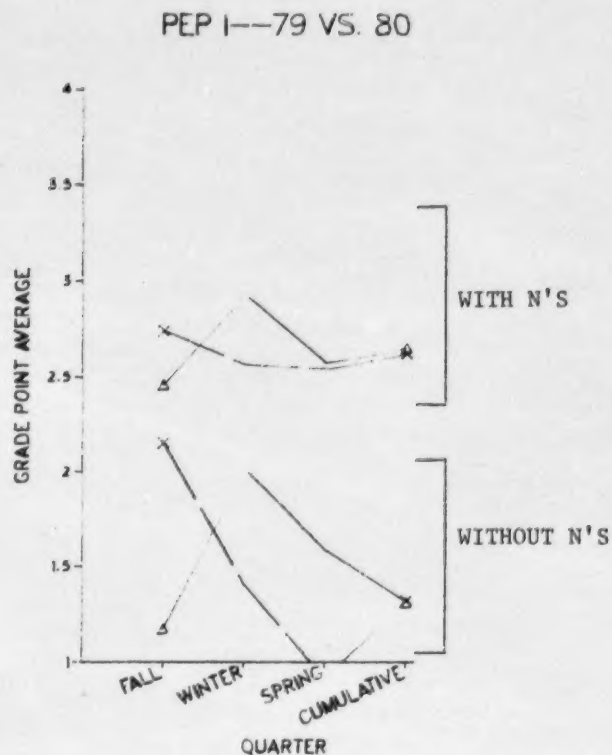
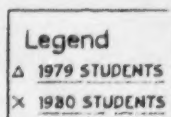
SECOND YEAR GRADE POINT AVERAGE FOR 1979 PEP AND CONTROL GROUPS, AND 1980 PEP GROUP*



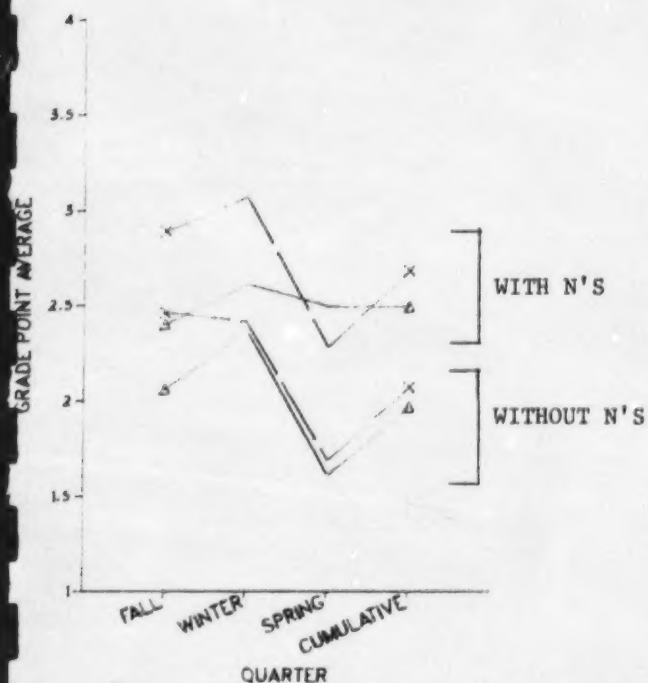
* ONLY THOSE STUDENTS WHO REMAINED REGISTERED IN GENERAL COLLEGE

FIGURE 4

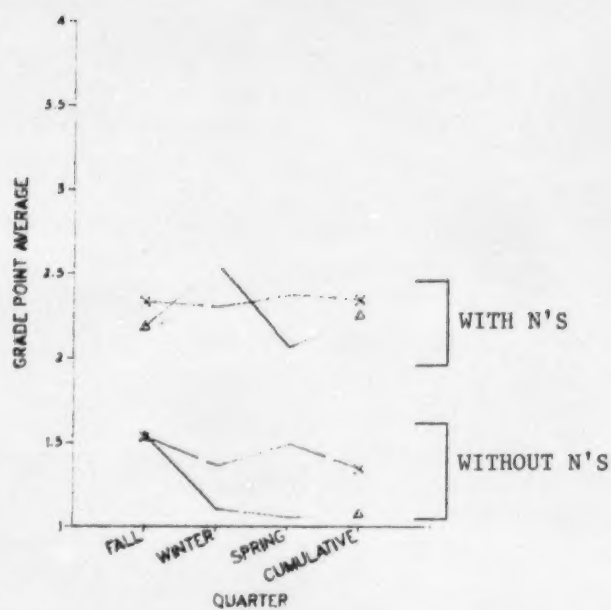
SECOND YEAR GRADE POINT AVERAGE
FOR PEP 79 VS. PEP 80*



PEP II--79 VS. 80



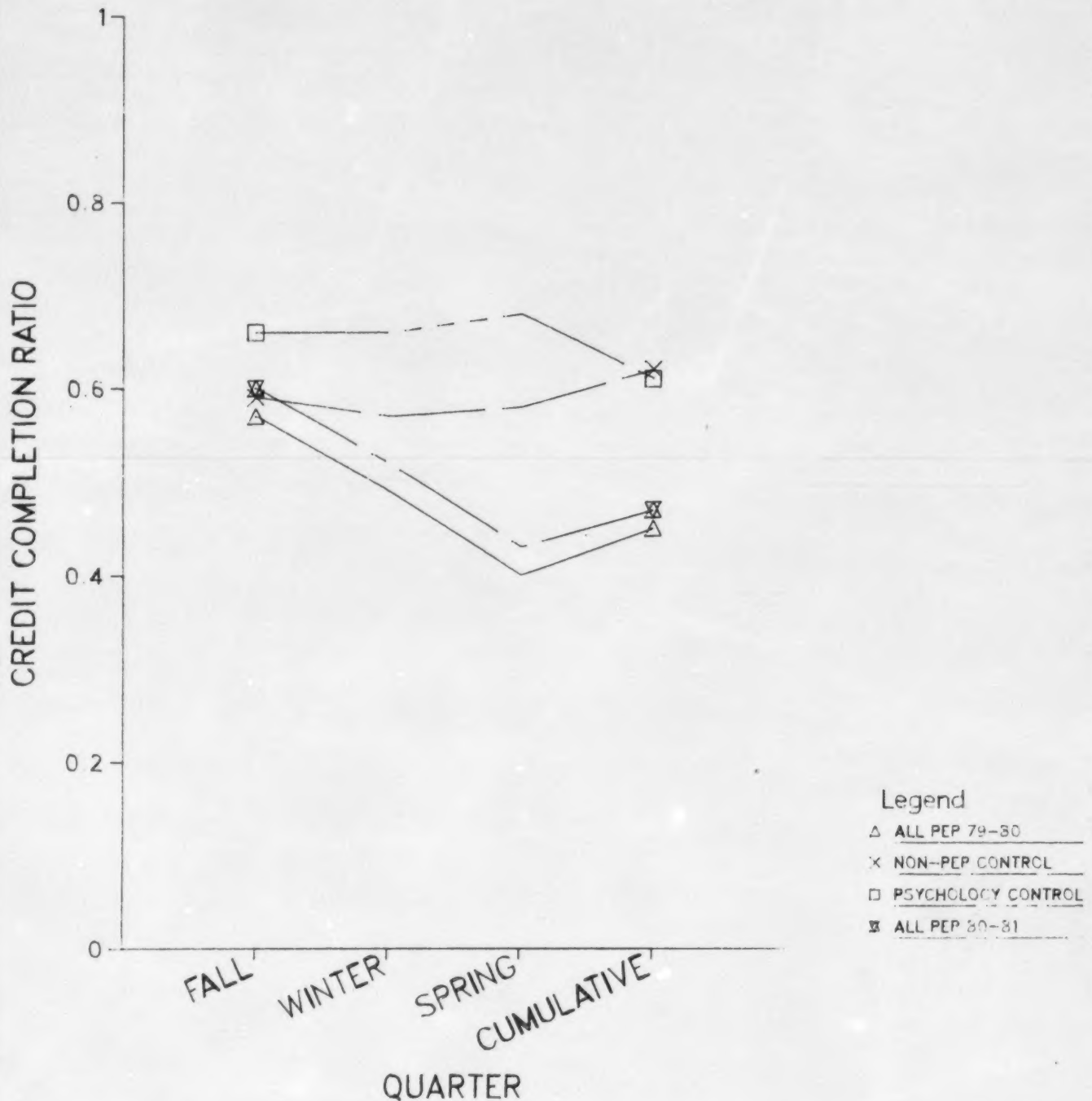
PEP III--79 VS. 80



* ONLY THOSE STUDENTS WHO REGISTERED IN GENERAL COLLEGE

FIGURE 5

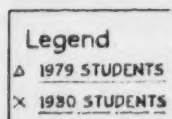
SECOND YEAR CREDIT COMPLETION RATIO
FOR 1979 PEP AND CONTROL GROUPS,
AND 1980 PEP GROUP*



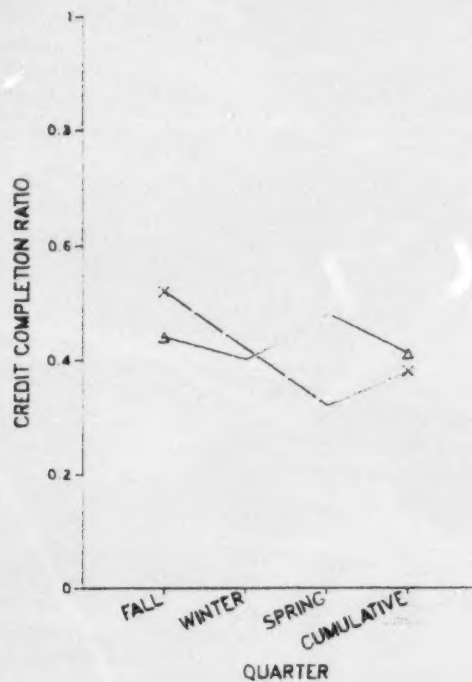
*ONLY THOSE STUDENTS WHO REMAINED REGISTERED IN GENERAL COLLEGE

FIGURE 6

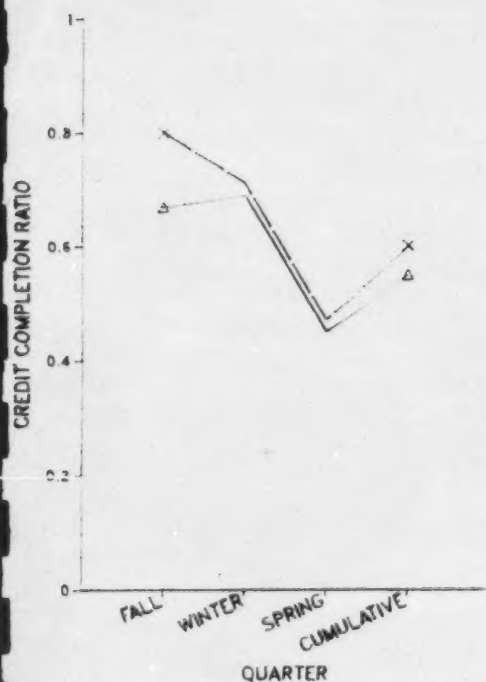
SECOND YEAR CREDIT COMPLETION RATIO
FOR PEP 79 VS. PEP 80 *



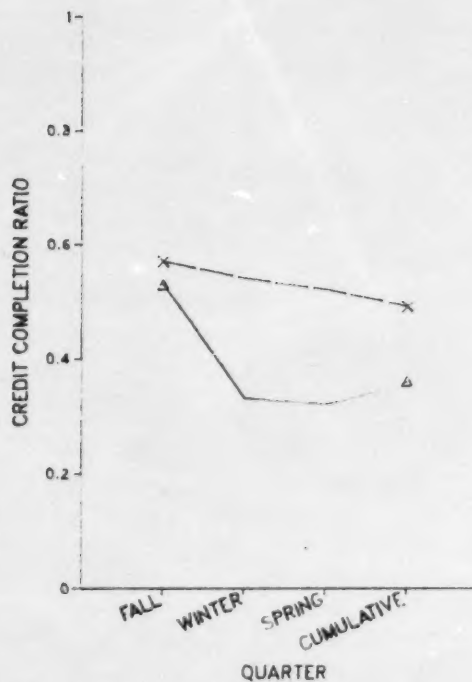
PEP I--79 VS. 80



PEP II--79 VS. 80



PEP III--79 VS. 80



* ONLY THOSE STUDENTS WHO REMAINED REGISTERED IN GENERAL COLLEGE

FIGURE 7

PERCENTAGE OF STUDENTS REMAINING REGISTERED
DURING THEIR FIRST YEAR
FOR 1979 PEP AND CONTROL GROUPS,
AND 1980 AND 1981 PEP GROUPS

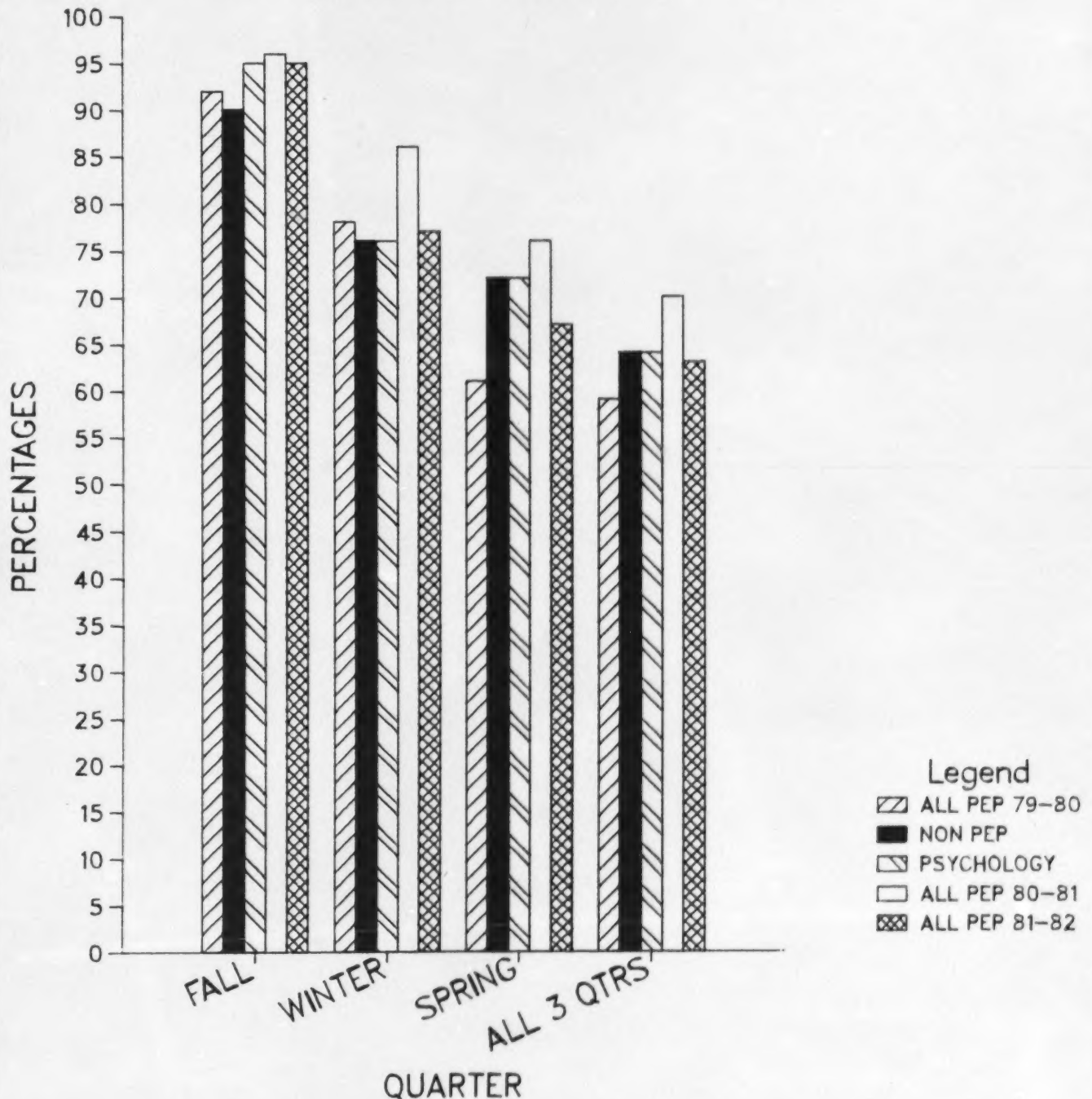


FIGURE 8

PERCENTAGE OF STUDENTS REMAINING REGISTERED
DURING THEIR FIRST YEAR
FOR PEP I, II, & III IN 1979, 1980, AND 1981

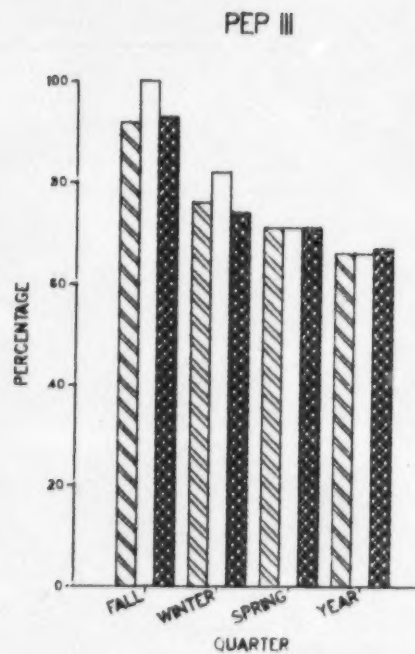
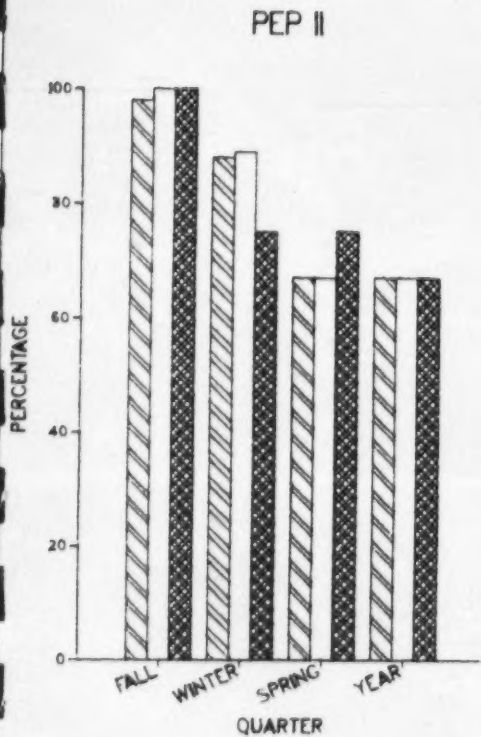
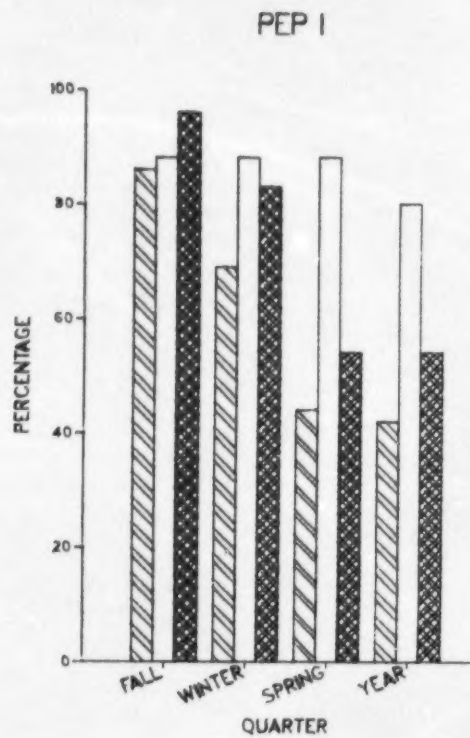
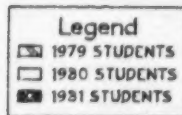


FIGURE 9

FIRST YEAR GRADE POINT AVERAGE FOR 1979 PEP AND CONTROL GROUPS, AND 1980 AND 1981 PEP GROUPS

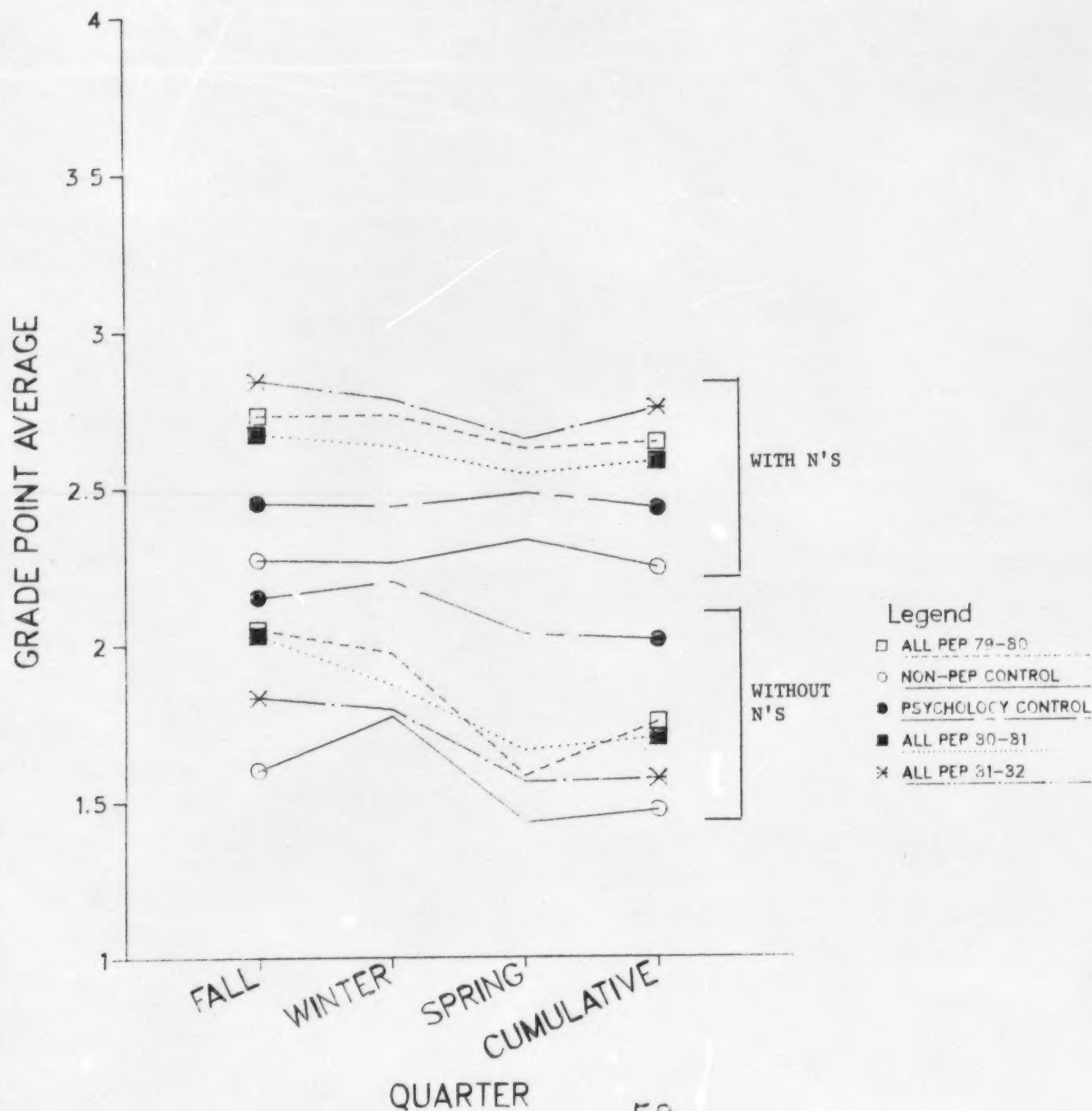
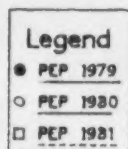
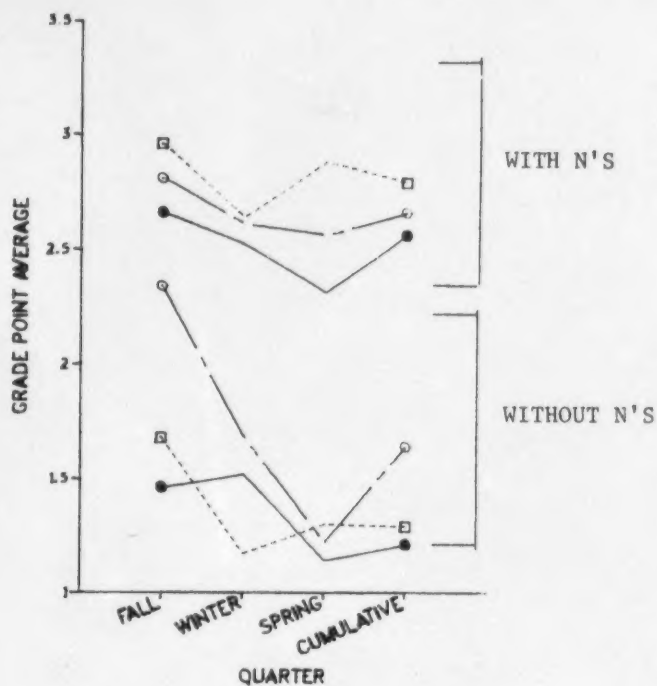


FIGURE 10

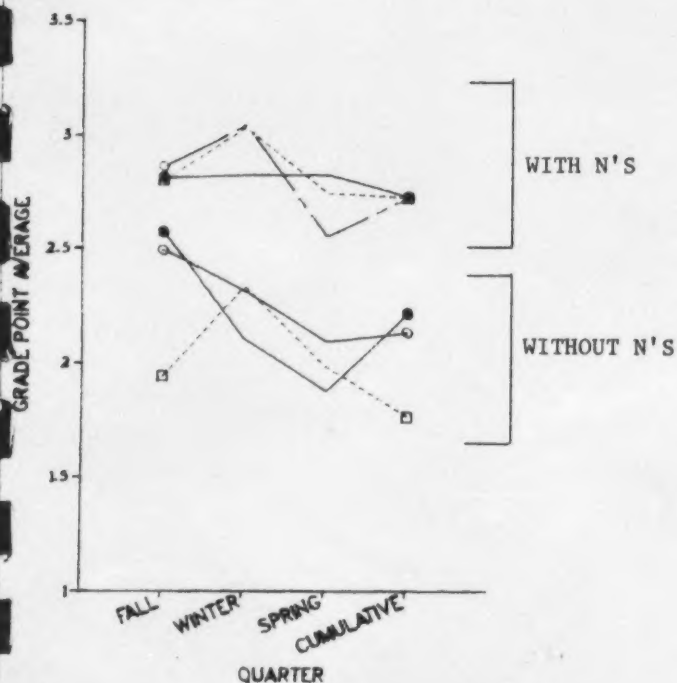
FIRST YEAR GRADE POINT AVERAGE
FOR PEP I, II, & III IN 1979, 1980, AND 1981



PEP I — 79 vs. 80 vs. 81



PEP II — 79 vs. 80 vs. 81



PEP III — 79 vs. 80 vs. 81

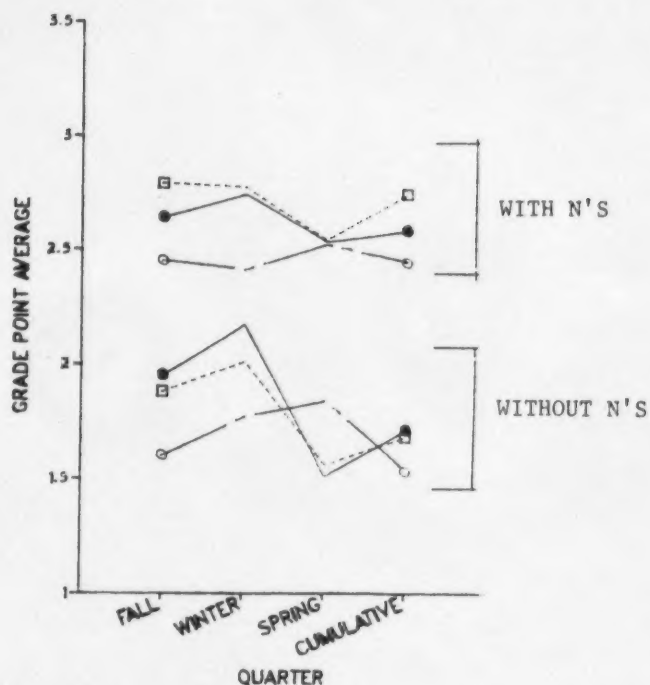


FIGURE 11

FIRST YEAR CREDIT COMPLETION RATIO
FOR 1979 PEP AND CONTROL GROUPS,
AND 1980 AND 1981 PEP GROUPS

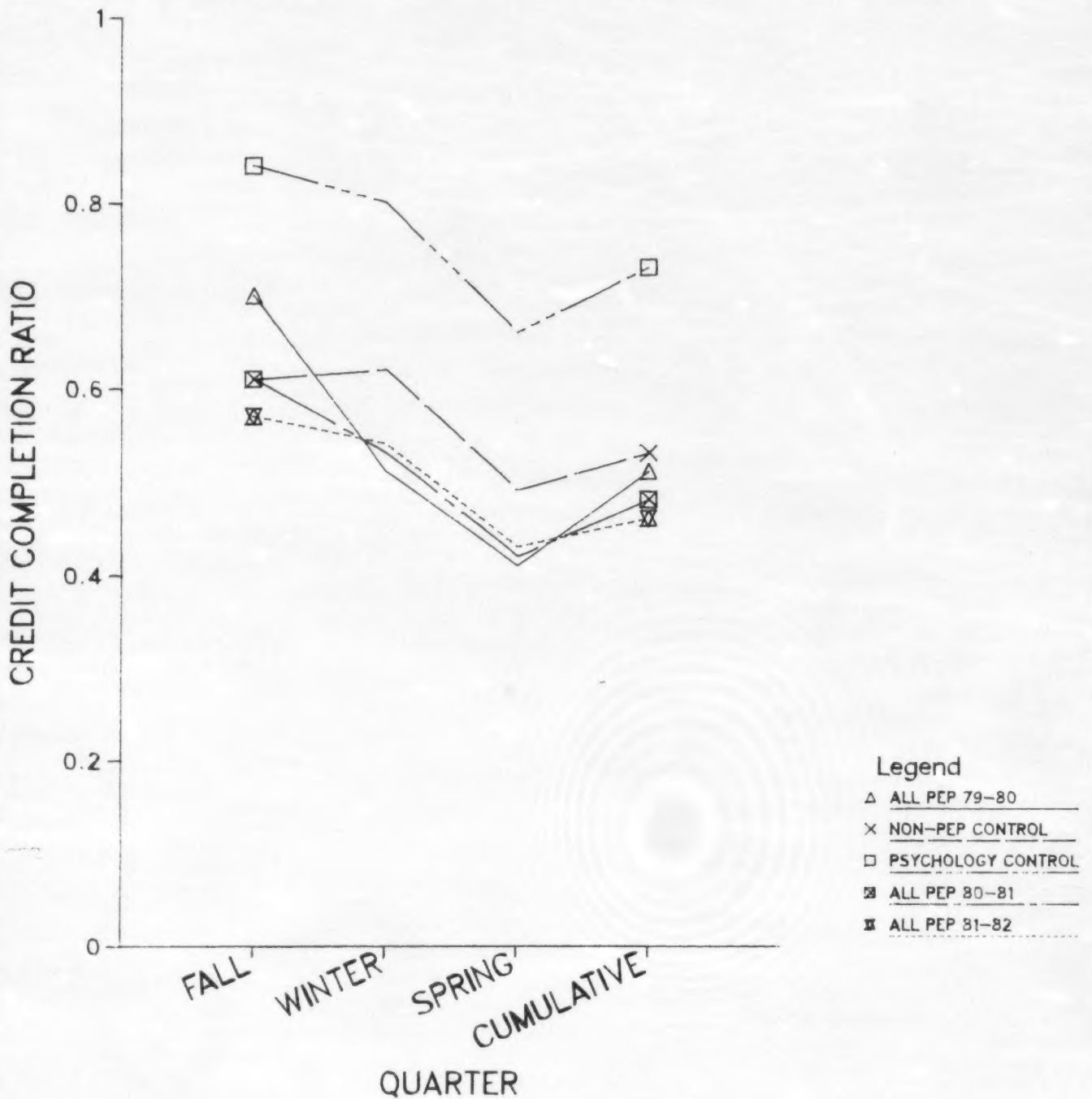
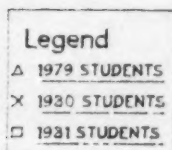
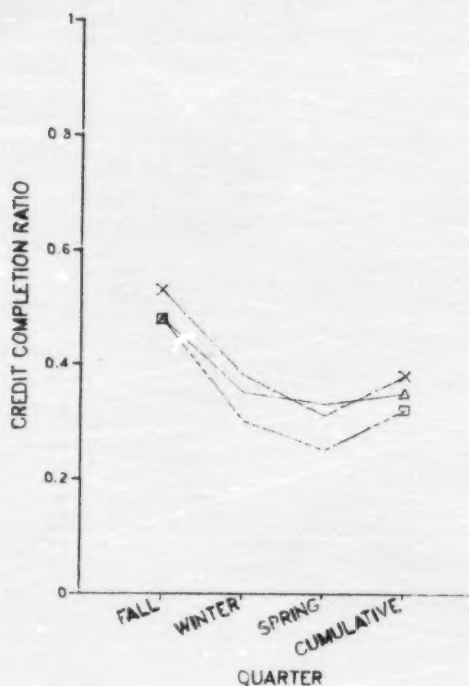


FIGURE 12

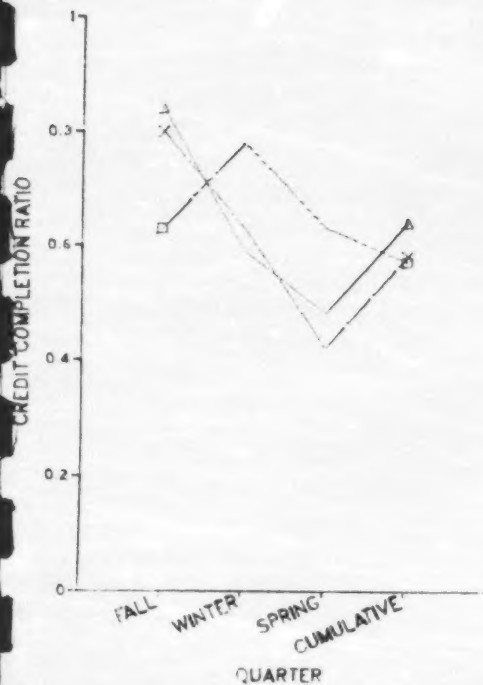
FIRST YEAR CREDIT COMPLETION RATIO
FOR PEP I, II, & III IN 1979, 1980, AND 1981



PEP I -- 79 vs. 80 vs. 81



PEP II -- 79 vs. 80 vs. 81



PEP III -- 79 vs. 80 vs. 81

